Australian Bureau of Statistics

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Summary

Overview

OVERVIEW

The Australian Statistical Geography Standard (ASGS) brings together in one framework all of the regions which the Australian Bureau of Statistics (ABS) and many other organisations use to collect, release and analyse geographically classified statistics. The ASGS ensures that these statistics are comparable and geospatially integrated and provides users with a coherent set of standard regions so that they can access, visualise, analyse and understand statistics. The 2016 ASGS will be used for the 2016 Census of Population and Housing and progressively introduced into other ABS data collections. The ABS encourages the use of the ASGS by other organisations to improve the comparability and usefulness of statistics generally, and in analysis and visualisation of statistical and other data.

This publication is the first volume in a series detailing the 2016 ASGS produced by the ABS. This is the second edition of the ASGS, which updates the first edition (introduced in 2011) for growth and change in Australia's population, economy and infrastructure. It also incorporates the Territory of Norfolk Island for the first time.

This publication deals with the ASGS Main Structure (Statistical Area Levels 1 - 4) and the Greater Capital City Statistical Areas (GCCSA). It outlines the conceptual basis of the ASGS Main Structure and the GCCSAs and their relationships to each other.

For support and further information about the ASGS and other ABS geospatial products please refer to the ABS website at https://www.abs.gov.au/geography***.***

Classification structures

CLASSIFICATION STRUCTURES

The Australian Statistical Geography Standard (ASGS) classification structures are split into two broads groups, the ABS Structures and the Non ABS Structures.

The ABS Structures are hierarchies of regions defined and maintained by the ABS. The regions that comprise the ABS Structures will remain unchanged until the next anticipated edition of the ASGS in 2021, which is timed for use in the next Census of Population and Housing.

The Non ABS Structures are hierarchies of regions which are not defined or maintained by the ABS, but for which the ABS is committed to providing a range of statistics. They generally represent administrative units, such as Postcode and Local Government Areas.

The ABS Structures are built directly from Mesh Blocks. Non ABS Structures are approximated by either Mesh Blocks, the Statistical Areas Level 1, or the Statistical Areas Level 2.

ABS structures

ABS STRUCTURES

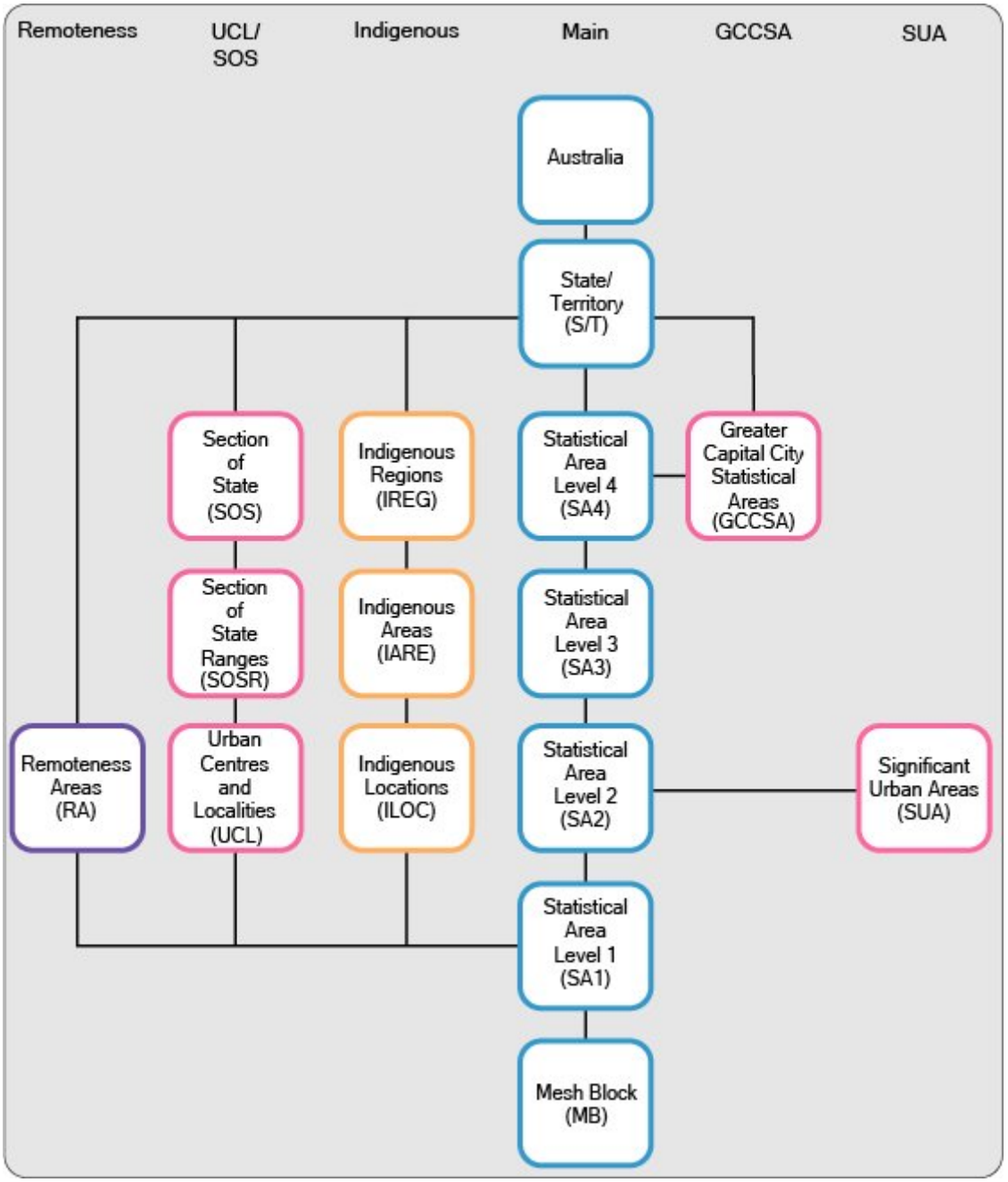
The ABS Structures comprise six interrelated hierarchies of regions. They are:

- Main Structure
- Indigenous Structure
- Urban Centres and Localities/Section of State Structure
- Remoteness Structure
- Greater Capital City Statistical Area (GCCSA) Structure
- Significant Urban Area Structure.

The Main Structure and GCCSA Structure will be discussed in more detail in this publication. The remaining ABS Structures will be described in later volumes of the Australian Statistical Geography Standard (ASGS). For details of their release, see Related material and release timetable.

Diagram 1 depicts the various ABS Structures, their component regions and how they interrelate.

DIAGRAM 1: ASGS ABS STRUCTURES



Non ABS structures

NON ABS STRUCTURES

The Non ABS Structures comprise eight hierarchies of regions which are not defined or maintained by the ABS, but for which the ABS is committed to providing a range of statistics. They generally represent administrative regions and are approximated by Mesh Blocks, Statistical Area Level 1 or Statistical Area Level 2. They are:

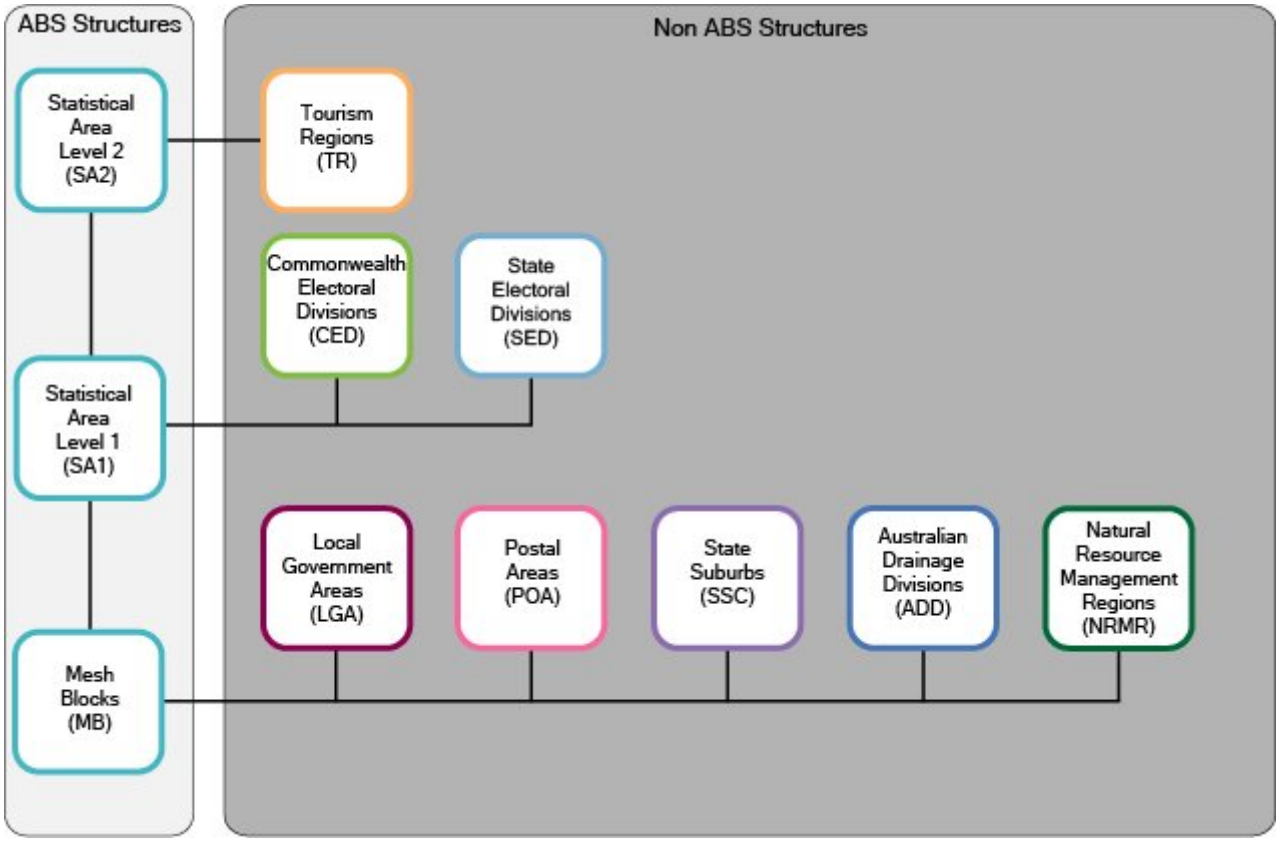
- Local Government Areas
- Postal Areas
- State Suburbs
- Commonwealth Electoral Divisions
- State Electoral Divisions
- Australian Drainage Divisions
- Natural Resource Management Regions

- Tourism Regions.

These structures will be the subject of Volume 3 of the Australian Statistical Geography Standards (ASGS) which will be released in September 2016 along with their digital boundaries, codes and labels.

Diagram 2 depicts the various ASGS Non ABS Structures, their component ABS structure regions and how they interrelate.

DIAGRAM 2: ASGS NON ABS STRUCTURES



Principles of the ASGS

PRINCIPLES OF THE ASGS

The Australian Statistical Geography Standard (ASGS) is constructed on the principle that it must fulfil user needs for geospatially enabled statistics, while also conforming to general classification principles.

USER NEEDS

The ASGS is designed to meet user needs for social, demographic and economic statistics. The regions of the ASGS below the State or Territory level are designed such that they are:

- useful and relevant for data dissemination
- flexible for aggregation into larger units
- useful building blocks for user-defined regions.

CLASSIFICATION PRINCIPLES

The ASGS is constructed on the basic classification principles that:

- members within one class are of the same type
- classes are uniquely defined so as to be mutually exclusive
- in total, the members in each class cover the entire class.

As a result, the regions of each hierarchical structure of the ASGS are:

- of the same type, delimited by well-defined criteria
- clearly defined by precise boundaries
- uniquely identified by codes and names
- mutually exclusive
- in aggregate, cover the whole area to which that hierarchy applies.

Definition of Australia

DEFINITION OF AUSTRALIA

The ABS uses two definitions of Australia:

- Geographic Australia, used for social and demographic statistics
- Economic Australia, used for economic statistics.

GEOGRAPHIC AUSTRALIA

The Australian Statistical Geography Standard (ASGS) uses the Geographic definition of Australia, as set out in section 2B of the Acts Interpretation Act 1901, which currently defines Australia or the Commonwealth as meaning:

'…the Commonwealth of Australia and, when used in a geographical sense, includes Norfolk Island, the Territory of Christmas Island and the Territory of Cocos (Keeling) Islands, but does not include any other external Territory'.

Included in this definition of Geographic Australia are the:

- States of New South Wales, Victoria, Queensland, South Australia, Western Australia and Tasmania
- Northern Territory
- Australian Capital Territory (ACT)
- Territory of Cocos (Keeling) Islands
- Territory of Christmas Island
- Jervis Bay Territory
- Territory of Norfolk Island

Historically, Norfolk Island has been excluded from the definition of Geographic Australia. However, in 2015 the Australian Government announced reforms to the governance of Norfolk Island and from 1 July 2016 the definition of Geographic Australia (as described above) has been updated to now include the Territory of Norfolk Island. In line with this

change, the 2016 ASGS has been updated to include the Territory of Norfolk Island within the 'Other Territories' category along with Jervis Bay Territory, the Territory of Cocos (Keeling) Islands and the Territory of Christmas Island.

The ASGS excludes Macquarie Island, although it is legally part of Tasmania. Macquarie Island is an extremely isolated sub-Antarctic island in the Southern Ocean. It has no permanent population. Any population on Macquarie Island, for example scientific expeditions, is recorded in the Census of Population and Housing and is included in the Migratory - Offshore - Shipping Statistical Area Level 2 for Tasmania.

Jervis Bay Territory was previously included with the ACT for statistical purposes. However, because of its administrative association with the ACT and it's relatively small size it did not meet confidentiality requirements for statistical output. Following the granting of self-government to the ACT in May 1989, this situation was reviewed. From the 1 July 1993 edition of the Australian Standard Geographical Classification, Jervis Bay Territory, along with the Territory of Cocos (Keeling) Islands and the Territory of Christmas Island formed part of a new category, Other Territories, at the State/Territory level. This convention has continued with the ASGS.

ECONOMIC AUSTRALIA

Economic Australia is defined in the Standard Economic Sector Classification of Australia (cat. no. 1218.0) and is used solely for the production of statistics. Economic Australia differs from Geographic Australia in that it, in addition to the areas covered in Geographic Australia, includes:

- Macquarie Island
- Territory of Ashmore and Cartier Islands
- Australian Antarctic Territory
- Coral Sea Islands Territory
- Heard Island and McDonald Islands
- Joint Petroleum Development Area
- Australian territorial waters
- Australian territorial enclaves in foreign countries, such as Australia's embassies, consulates, trade offices, etc.

The ASGS does not use the Economic definition of Australia.

EXCLUSIONS FROM GEOGRAPHIC AND ECONOMIC AUSTRALIA

Both the Geographic and Economic definitions of Australia exclude foreign governments' territorial enclaves (for example embassies, consulates, scientific stations, information and immigration offices, etc.) located in Australia. Statistics are not collected or produced for the areas covered by these enclaves; however, for simplicity of production and use of the ASGS these areas are not excluded from the definition of ASGS regions or the geospatial representation of these ASGS regions in ABS products and services.

Summary tables

The Main and Greater Capital City Statistical Area (GCCSA) Structures and their component structures are shown in table 1.

Table 1: Summary of Main and GCCSA Structures

ASGS Structure	Hierarchical Levels	Region Type
Main	6	MB, SA1, SA2, SA3, SA4, S/T
GCCSA	6	MB, SA1, SA2, SA3, SA4, GCCSA

The number of records in selected ABS Structures is shown in table 2.

Table 2: Summary of Main and GCCSA Units at July 2016

Region Type	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	OT	Aust.
S/T	1	1	1	1	1	1	1	1	1	9
GCCSA	4	4	4	4	4	4	4	3	3	34
SA4	30	19	21	9	12	6	4	3	3	107
SA3	94	68	84	30	36	17	11	12	6	358
SA2	578	464	530	174	254	101	70	133	6	2,310
SA1	18,399	14,073	11,563	4,245	5,984	1,464	626	1,147	22	57,523
MB	109,880	85,014	69,764	28,205	42,449	12,981	3,299	6,393	137	358,122

Note: Includes Migratory - Offshore - Shipping and No Usual Address

Related material and release timetable

ASGS RELATED MATERIAL AND RELEASE TIMETABLE

The 2016 Australian Statistical Geography Standard (2016 ASGS) and its supporting material, digital boundaries, codes, labels, hierarchies, maps and correspondences will be released progressively from July 2016 until early 2018. All of these products will be available from the ABS website at https://www.abs.gov.au/geography.

Below is the content and timetable for these releases.

SUPPORTING MATERIAL FOR THIS VOLUME

The following supporting material is available:

- digital boundaries for the regions described in this publication as ESRI Shape files, MapInfo Interchange Format files, MapInfo TAB files and Open Geospatial Consortium GeoPackage
- ABS Geospatial Web Services User Guide
- codes, labels and hierarchies for all the regions described in this publication in '.csv' format
- online mapping tool to view and compare the ASGS regions, ABS Maps
- 2011 to 2016 ASGS Main Structure correspondences
- other correspondences available upon request.

This supporting material will also be available for all subsequent 2016 ASGS releases.

ASGS VOLUME 2: INDIGENOUS STRUCTURE

ASGS Volume 2: Indigenous Structure will be released in September 2016. It will contain a description of the regions which will make up the ASGS Indigenous Structure. They comprise:

- Indigenous Regions
- Indigenous Areas
- Indigenous Locations.

ASGS VOLUME 3: NON ABS STRUCTURES

ASGS Volume 3: Non ABS Structures will be released in September 2016. It will contain a description of the regions that make up the Non ABS Structures. They comprise:

- Local Government Area (LGA)
- Postal Area (POA)
- State Suburb (SSC)
- Commonwealth Electoral Division (CED)
- State Electoral Division (SED)
- Australian Drainage Division (ADD)
- Natural Resource Management Region (NRMR)
- Tourism Region (TR).

Local Government Area, Postal Area, State Suburb, Australian Drainage Division and Natural Resource Management Region will be derived using whole Mesh Blocks. Previously, only Local Government Areas were directly derived from whole Mesh Blocks, with the other areas derived directly using whole Statistical Area Level 1 (SA1). As Mesh Blocks are generally smaller than SA1s these will be more accurate representations of these areas than in the past.

Commonwealth Electoral Division and State Electoral Division will be derived using whole SA1s.

Tourism Region will be derived using whole Statistical Areas Level 2.

ASGS VOLUME 4: SIGNIFICANT URBAN AREAS, URBAN CENTRES AND LOCALITIES/SECTION OF STATE

ASGS Volume 4: Significant Urban Areas and Urban Centres and Localities/ Section of State will be released in late 2017. It will contain a description of the regions which will make up the ASGS Significant Urban Area, Urban Centre and Localities /Section of State structures.

The Significant Urban Area structure will bound Australia's towns and cities with a population of 10,000 or over.

The Urban Centre and Localities /Section of State structures will be derived using whole SA1s.

ASGS VOLUME 5: REMOTENESS STRUCTURE

ASGS Volume 5: Remoteness Structure will be released in early 2018. It will contain a description of the regions that will make up the ASGS Remoteness Structure. These are derived from whole SA1s using the Accessibility/Remoteness Index of Australia maintained by the National Centre for Social Applications of GIS (GISCA) under the Australian Population and Migration Research Centre at the University of Adelaide.

CORRESPONDENCES (CONCORDANCES)

Correspondences allow users to reallocate data between areas by providing a population weighted proportionate distribution and a goodness of fit indicator. These correspondences may then be extended to develop a one to one concordance based on the most significant contributors.

The ABS will develop a suite of correspondences between the 2011 and 2016 ASGS, including the ABS and Non ABS structures.

ABS has enhanced the way it generates correspondences using a method that primarily utilises distributions of Geocoded National Address File based address point and Census population counts. ABS Correspondences for the 2016 ASGS will be based on 2016 Census of Population and Housing Mesh Block data. This will mean they will be simpler and more accurate than correspondences derived from earlier Census data. These correspondences will be developed progressively taking into account the first release of data from the 2016 Census of Population and Housing.

There are a large number of potential correspondences that could be generated, so only the most widely used and reliable will be available on the ABS website. Other correspondences can be requested by emailing <client.services@abs.gov.au> or contacting the National Information and Referral Service on 1300 135 070. For further information, please follow the link to the ABS Geography web portal at https://www.abs.gov.au/geography.

Main structure

MAIN STRUCTURE

PURPOSE

The Main Structure of the Australian Statistical Geography Standard is used to disseminate a broad range of Australian Bureau of Statistics social, demographic and economic statistics, as well as being widely used by other organisations . It is broadly based on the concept of a functional area. The functional area is the area within which many people commute or travel to access services. Depending on the level in the Main Structure hierarchy, this area may be a rural town and it's hinterland, a regional city, an urban commercial hub or a capital city central business district. For smaller areas they may represent neighbourhoods or communities.

THE STRUCTURE

The structure has seven hierarchical levels comprising in ascending order: Mesh Block

(MB), Statistical Area Level 1 (SA1), Statistical Area Level 2 (SA2), Statistical Area Level 3 (SA3), Statistical Area Level 4 (SA4), State and Territory (S/T), and Australia (AUS). Each level directly aggregates to the level above. Therefore, SA1s are aggregates of Mesh Blocks and aggregate to SA2s. This principle continues up through the remaining levels of the hierarchy. At each hierarchical level, the component geospatial units collectively cover all of Geographic Australia (as defined in Definition of Australia) without gaps or overlaps.

THE HIERARCHICAL LEVELS

Mesh Block (MB)

Statistical Area Level 1 (SA1)

Statistical Area Level 2 (SA2)

Statistical Area Level 3 (SA3)

Statistical Area Level 4 (SA4)

State and Territories (S/T)
Australia (AUS)

Mesh Blocks (MB)

MESH BLOCKS (MB)

Mesh Blocks are the smallest geographical area defined by the Australian Bureau of Statistics (ABS) and form the building blocks for the larger regions of the Australian Statistical Geography Standard (ASGS). All other statistical areas or regions are built up from or, approximated by whole Mesh Blocks. They broadly identify land use such as residential, commercial, primary production and parks, etc.

The 2016 ASGS contains 358,122 Mesh Blocks covering the whole of Australia without gaps or overlaps. This includes 113 non spatial Mesh Blocks special purpose codes, for Migratory-Offshore-Shipping and No Usual Address for the States and Territories. These non-spatial Mesh Blocks do not have a geographic boundary defining their extent and include areas that are difficult to define in this way.

In 2016 a number of ASGS Non ABS structures will be built from Mesh Blocks, which will result in more accurate approximations of these Non ABS geographies when compared to the 2011 SA1 approximated Non ABS geographies. The ASGS Non ABS structures that will be approximated from Mesh Blocks include Local Government Area, Postal Area, State Suburb, Australian Drainage Division and Natural Resource Management Region.

As Mesh Blocks are very small they can be combined together to accurately approximate a large range of other statistical regions.

DELIMITATION OF MESH BLOCK

The 2011 ASGS Mesh Blocks were originally designed using a standard set of criteria. These design criteria have continued to be used when redesigning the Mesh Blocks for the 2016 ASGS.

The priority order for these design criteria can vary depending on where in Australia the Mesh Block is located. For example, some of these priorities will change depending on whether the area is urban or rural. In urban areas, it is highly desirable that urban Mesh Blocks have a dwelling count of over 30. Wherever possible, urban Mesh Blocks have been designed to follow main roads or back fences to ensure internal connectivity within a Mesh Block. In the case of rural town Mesh Blocks, main roads have also been an important design element; however, the outer locality boundaries were of a higher priority in design. This ensured that the urban extent of rural communities could be contained.

During the review process there were historical rural Mesh Blocks that met the desired count of 30 to 60 dwellings; however, some of these were spatially so large that they impacted the functional boundaries of key higher level regions. This would have adversely affected the release of useful statistics for these higher level regions. In these instances rural design priorities focused on alignment with higher level region boundaries (such as locality boundaries), internal connectivity and compact shapes, and these design criteria were given higher priority over the dwelling count criteria.

In general, the priority order of Mesh Blocks design criteria can be summarised as:

- be of either urban or rural character
- where practical, not to cross cadastral (property) boundaries
- to follow road centre lines
- where possible, all dwellings/buildings to be accessible within the Mesh Block
- where possible, have a dwelling count of between 30 and 60, or contain no dwellings at all
- to be a single polygon
- to broadly reflect land use – the land use categories to which a Mesh Block can be assigned include:
    - residential
    - commercial
    - industrial
    - parkland
    - education
    - hospital/medical
    - transport
    - primary production
    - water
    - other
- to align to gazetted suburb and locality boundaries, especially in rural areas
- to identify major facilities, such as hospitals, universities, airports etc
- to identify high density housing
- socio-economically homogenous, e.g. whole apartment buildings, shopping complexes and parking lots
- to reflect town blocks in urban areas
- to be of a compact size and shape especially in urban areas
- to provide consistency and continuity for adjacent Mesh Block boundaries, where possible
- to reflect topographic features such as rivers, road, rail, major mountain ranges and escarpments

- alignment to Local Government Area boundaries, where possible.

Urban and Rural

Mesh Blocks are designed to be either urban or rural in nature. The primary purpose of this urban/rural split is to distinguish clustered population from dispersed population.

Cadastre

Where practical, Mesh Block boundaries do not cross cadastral (property) boundaries. Essentially Mesh Blocks are designed to be an aggregation of land parcels.

Roads

Mesh Blocks should follow the road centre lines, where possible. Major roads such as highways/motorways can be used as a Mesh Block boundary.

Accessibility

Where possible, all dwellings/buildings are to be accessible by road or pathway from within the Mesh Block.

Dwellings

The minimum dwelling count of Mesh Blocks has been designed to be small enough to aggregate accurately to a wide range of spatial units and to enable a ready comparison of statistics between geographical regions, while also being large enough to protect against accidental disclosure of confidential information. The majority of populated Mesh Blocks contain between 30 and 60 dwellings. The Geocoded National Address File (G-NAF) and cadastral counts were used as the proxy for dwelling counts.

Single Polygon

Mesh Blocks must be a single polygon.

Land Use

Mesh Blocks reflect land use boundaries where possible. For example, residential areas are separated from commercial or primary production areas. Mesh Blocks are therefore broadly categorised by land use. The Mesh Block category is not designed to provide a definitive land use map. It is purely indicative of the main land use for a Mesh Block, based on a range of general land use indicators. The land use categories and their criteria are described below.

- **Residential:** Generally, residential areas have been separated from other land uses. Residential Mesh Blocks can include houses, duplexes, apartments, serviced/long stay apartments, townhouses, gated communities, complexes, caravan parks, retirement villages, military bases where people live, and prisons.
- **Commercial:** Mesh Blocks categorised as commercial will contain a number of businesses, and where possible, will have a zero population count. Some commercial Mesh Blocks may contain population, for example, where a residential flat is above a shop.
- **Industrial:** Mesh Blocks categorised as industrial will contain a number of businesses, and where possible, will have a zero population count.

- **Parkland:** Mesh Blocks with parkland, nature reserves and other minimal use protected or conserved areas have been categorised as Parkland. Parkland Mesh Blocks may also include any public open space and sporting arena or facility whether enclosed or open to the public, including racecourses, golf courses and stadiums.
- **Education:** Education Mesh Blocks aim to capture education facilities and may contain population in non-private dwellings such as boarding schools or universities.
- **Hospital/Medical:** Mesh Blocks with hospital or medical facilities have been classified as such. Hospital/Medical Mesh Blocks will also include aged care facilities, which are independent to larger retirement villages.
- **Transport:** Mesh Blocks which only contain road or rail features have been categorised as transport.
- **Primary Production:** Primary production has replaced the previous category of agricultural. Mesh Blocks categorised as primary production must have more than 50 per cent of their area attributed to a primary production land use, and has been categorised as this using a range of available datasets. Mesh Blocks which were previously categorised as agricultural and did not meet this criteria were categorised as other.
- **Water:** Water Mesh Blocks aim to identify water bodies where possible.
- **Other:** Mesh Blocks classified as other are representative of land uses which could not be easily placed in one of the other nine categories due to the nature of the land use, or due to evidence of high mixed use.

Gazetted Suburbs and Localities

Where possible, Mesh Blocks are designed to contain or aggregate to whole suburbs or localities, especially in rural areas.

Major Facility

Mesh Blocks, where possible, should identify hospitals, universities, airports, retirement villages, etc., which occupy a large area of land, extend across both sides of a street, or have an internal road network.

High density housing

High density housing (such as apartment blocks) have been identified and designed to be incorporated into individual Mesh Blocks of compact shape, where possible. This may mean that these Mesh Blocks exceed the upper level of population and dwelling targets.

Socio-economical homogeneity

Mesh Blocks should be socio-economically homogenous. For example, a whole apartment building, residential complex, parking lot, shopping complex or retirement village should be a single Mesh Block, if possible.

Town Blocks

Where possible in urban areas, Mesh Blocks will reflect compact, town blocks. These town blocks are already defined by cadastral parcels and main roads.

Shape

Where practical, Mesh Blocks are designed to be compact in size and shape, especially in urban areas.

Continuity

If a Mesh Block boundary runs along a main road, adjacent Mesh Block boundaries will follow the same road if possible. This will provide consistency and continuity in the aggregated regions made from the Mesh Blocks.

Topography

Mesh Block boundaries reflect topographic features, where practical, as these have the potential to define communities.

The topographic features used for Mesh Block design include:

- water, rivers and lakes
- transportation, roads and rail
- open space, parkland, nature reserves and forest
- major mountain ranges or escarpments.

Mesh Block Design

Some Mesh Block redesign has occurred for the release of the 2016 ASGS. This redesign is necessary to ensure the Mesh Blocks continue to meet the criteria set out above and remain relevant by incorporating the growth and change in Australia's population, economy and infrastructure. In addition, Mesh Blocks have been designed to incorporate the Territory of Norfolk Island, following its inclusion into the definition of Geographic Australia.

Some changes have also been made to the Mesh Block digital boundaries for cartographic purposes to ensure the boundaries can be used in conjunction with standard mapping data. In effect these changes do not represent a change in the boundary, only its representation.

Some design changes to boundaries that reflect changes to physical infrastructure, such as realigned roads, do not result in the movement between Mesh Blocks of any or substantial numbers of households or business, or land area. Where this occurs, these changes are not considered to be statistically significant.

Design changes that have resulted in statistical significant changes to the Mesh Block boundaries usually occurred due to current estimated population and dwelling levels in 2011 Mesh Blocks that exceeded or were lower than the targets in the design criteria. Where this occurred, the 2011 ASGS Mesh Block has been reviewed and the 2016 Mesh Block redesigned where appropriate. Changes were done as splits to boundaries, or boundaries were modified in such a way as to limit the number of statistically significant changes to the surrounding boundaries. Where changes occurred they were undertaken to ensure long term stability into the future.

This redesign has in turn impacted the coding of the Mesh Blocks. Where a 2011 Mesh Block has been marginally re-aligned, split or significantly redesigned, the original 2011 Mesh Block codes has been retired and replaced with a new, previously unused code for 2016.

MESH BLOCK CODE

The 11-digit Mesh Block code comprises: State and Territory identifier (1 digit), and a Mesh Block identifier (10 digits).

Example: 60106840000

S/T	MB
6	0106840000

Mesh Block Identifier Ranges

Within each State and Territory, the Mesh Block identifier range 0000000000 to 9999999999.

Statistical Area Level 1 (SA1)

STATISTICAL AREA LEVEL 1 (SA1)

Statistical Areas Level 1 (SA1) are geographical areas built from whole Mesh Blocks. Whole SA1s aggregate to form Statistical Areas Level 2 (SA2) in the Australian Statistical Geography Standard (ASGS) Main Structure. The SA1s have generally been designed as the smallest unit for the release of census data; however, limited census data may also be available at the Mesh Block level for the 2016 ASGS. SA1s have a population of between 200 and 800 people with an average population size of approximately 400 people.

There are 57,523 spatial SA1 regions covering the whole of Australia without gaps or overlaps. These include 33 non-spatial SA1 special purpose codes, comprising Migratory–Offshore–Shipping and No Usual Address codes for each State and Territory.

SA1s are also used as the building blocks for a number of ASGS defined regions including the Indigenous Structure, the Section of State and Urban Centre and Localities Structures, and the Remoteness Structure. Within the Non ABS Structure SA1s are used to approximate a number of administrative regions, such as Commonwealth Electoral Divisions and State Electoral Divisions.

Data from the 2016 Census of Population and Housing will be available at SA1 level.

DELIMITATION OF SA1

SA1s are designed to be either a predominantly rural or predominantly urban in character, with SA1s in rural and remote areas generally having a lower population than in urban areas. SA1s are designed to be internally connected by road, except for groups of unpopulated islands and Aboriginal and Torres Strait Islander communities,

which may not be contiguous. Areas without permanent population (such as lakes, commercial areas, national parks etc.) are often represented by "zero SA1s" - these are SA1s with an effective design population of zero.

The SA1s were designed using a number of criteria which reflect a balance between respective considerations. Listed below are the criteria in the approximate order of importance.

Population

SA1s generally have a population of 200 to 800 persons, and an average population of about 400 persons. SA1s in remote and regional areas generally have smaller populations than those in urban areas.

SA1s closely bound small rural towns with a population of 180 persons or more.

Aboriginal and Torres Strait Islander Population

SA1s are designed to identify Aboriginal and Torres Strait Islander communities with an aim to exclude as much of the non-indigenous population as possible.

SA1s closely bound Aboriginal and Torres Strait Islander communities with a population of 90 persons or more.

Urban and Rural

SA1s are designed to be either urban or rural in character.

Urban SA1s contain one or more of the following:

- residential development with a density over 200 persons per square kilometre
- built infrastructure including:
    - ports
    - airports with paved runways
    - industrial, commercial and retail development
    - large sports complexes
    - educational campuses
    - places of worship
    - military camps
    - research stations
- local parks and playgrounds
- local sports facilities and ovals
- vegetation corridors
- golf courses
- cemeteries
- lakes, rivers, riverbanks, creeks and drainage reserves surrounded by development of an urban character
- sewerage facilities, waste disposal facilities, hospitals, transport hubs, grain storage.

Rural SA1s contain one or more of the following:

- residential development with a density less than 200 persons per square kilometre
- agriculture
- national parks

- defence reserves
- Indigenous lands
- mines
- stockyards
- lakes, rivers, riverbanks, creeks and drainage reserves not surrounded by development of an urban character.

Local Government Area (LGA)

In the ASGS, SA1s may be aggregated to closely reflect Local Government Area boundaries, but will not exactly match.

Transport

SA1s are generally internally connected by road transport. Exceptions include islands, which are either combined with the nearest onshore SA1 or grouped to form an SA1. Transport between these islands and to the mainland may occur in the form of ferries when the island population is large enough.

Gazetted Suburbs and Localities

Where possible, the SA1s have been designed to contain or aggregate to whole gazetted suburbs or rural localities. In urban areas, the gazetted suburbs usually consist of one or more SA1s.

In regional and remote areas, gazetted localities were sometimes too small to represent an SA1 in their own right. Where this occurred, four general criteria were used to cluster smaller localities:

- a shared road network
- similar physical geography
- shared community facilities
- being contained within the one Local Government Area.

Growth

SA1s have been created in anticipation of development likely to occur up to the time of the August 2016 Census of Population and Housing.

Prisons

Prisons, remand centres and juvenile detention centres with a population of over 200 persons are generally represented by their own SA1.

Defence Bases

Defence bases with a population of over 200 persons are generally represented by their own SA1.

Zero SA1

Zero SA1s are SA1s with a nil or nominal population. They are created to represent large unpopulated areas that are not easily combined with surrounding populated SA1s.

They may include one or more of the following:

- airports
- ports
- commercial developments
- industrial developments
- large shopping complexes
- large sporting complexes
- large educational campuses
- research stations
- large cemeteries
- golf courses
- national parks
- large urban parks
- defence reserves
- restricted Commonwealth land
- groups of unpopulated islands
- very large areas of land which are unlikely ever to be populated, for example extreme desert or otherwise inhospitable terrain
- lakes.

Special Purpose SA1

There are non-spatial SA1s for Migratory, Offshore, Shipping and No Usual Address in each State and Territory.

SA1 CODING STRUCTURE

SA1s are not named. They are identified either by an 11-digit fully hierarchical code, or by a truncated 7-digit code comprising the State and Territory, SA2 and SA1 identifiers. The SA1 identifier is a 2-digit code, assigned within a SA2. A SA1 code is only unique within a State and Territory when it is preceded by the State and Territory identifier.

11-digit Code

An 11-digit SA1 code is fully hierarchical, and comprises: State and Territory identifier, SA4 identifier, SA3 identifier, SA2 identifier and a SA1 identifier.

Example: SA1 50302104118

S/T	SA4	SA3	SA2	SA1
5	03	02	1041	18

7-digit Code

A 7-digit SA1 code is not fully hierarchical and comprises: State and Territory identifier, SA2 identifier and SA1 identifier.

Example: SA1 5104118

S/T	SA2	SA1
5	1041	18

Future Allocation of SA1 Codes

In the future, it may be necessary to allocate new codes. If a SA1 is abolished, or changes significantly for new editions of the ASGS, the SA1 identifier will be retired and the replacement SA1(s) given the next available previously unused SA1 identifier within the SA2.

SA1 Identifier Ranges

Within each SA2, the SA1 identifier is in the data range 01 to 99.

Statistical Area Level 2 (SA2)

STATISTICAL AREA LEVEL 2 (SA2)

Statistical Areas Level 2 (SA2) are medium-sized general purpose areas built up from whole Statistical Areas Level 1. Their purpose is to represent a community that interacts together socially and economically.
There are 2,310 SA2 regions covering the whole of Australia without gaps or overlaps. These include 18 non-spatial SA2 special purpose codes, comprising Migratory–Offshore–Shipping and No Usual Address codes for each State and Territory.

Data from the 2016 Census of Population and Housing will be available at SA2 level. The SA2 is the smallest area for the release of Australian Bureau of Statistics (ABS) non-Census and Intercensal statistics, including the Estimated Resident Population and Health & Vitals data. Whole SA2s aggregate to form Statistical Areas Level 3 (SA3). SA2s are also used to approximate Significant Urban Areas and Tourism Regions in the ASGS Non ABS Structure.

The Other Territories of Jervis Bay, Cocos (Keeling) Islands, Christmas Island and Norfolk Island are each represented by a SA2 in the 2016 Australian Statistical Geography Standard (ASGS).

DELIMITATION OF SA2

SA2s are designed as the primary output region for the release of non-Census and Intercensal data. Large areas without permanent population (such as international airports, large commercial areas and national parks etc.) are often represented by "zero SA2s" - these are SA2s with an effective design population of zero.

The SA2s were designed using a number of criteria which reflect a balance between respective considerations. Listed below are the criteria in the approximate order of importance.

Population

SA2s generally have a population range of 3,000 to 25,000 persons. SA2s have an average population of about 10,000 persons and include towns with a population in excess of this. SA2s in remote and regional areas generally have smaller populations than those in urban areas. There are some SA2s outside these target population

ranges, due to other considerations such as:

- the relative sparseness of the population in remote regions (a SA2 with a population of 3,000 may cover too large and diverse a geographical area to be a meaningful unit)
- the benefit of preserving recognisable areas for which there is a considerable amount of historical data
- isolated geographical areas, such as islands or other isolated populations
- the need to avoid arbitrary subdivisions of otherwise coherent regions, such as very large suburbs or regional towns.

Functional

A functional area is the area from which people come to access services at a centre. This centre may be a rural town, a regional city, a commercial and transport hub within a major city, or the major city itself. The concept of a functional area is used at all levels of the ABS Main Structure, but is essential to the design of the SA2s outside major urban areas.

A centre and its functional area are represented by one or more SA2s. A rural town and its functional area may be combined into a single SA2. A larger town may be identified by its own SA2 and its functional area by a second SA2. Larger towns and regional cities may be represented by several SA2s, as may their functional areas.

Within cities, the SA2s represent gazetted suburbs rather than functional areas.

In remote areas, it is difficult to apply the concept of a functional area without creating regions which are too large and diverse. In remote areas, the SA2s were designed to represent meaningful regions, useful for statistical analysis.

Growth

SA2s containing regional towns or on the fringes of larger cities have been designed to contain: the urban area, any immediately associated semi urban development and likely growth in the next 10 to 20 years. This is to ensure that the SA2 boundaries remain stable over several Population Censuses.

Gazetted Suburbs and Localities

Where possible, the SA2s have been designed around whole gazetted suburbs or rural localities. This is to make the regions as meaningful as possible to users unfamiliar with the statistical geography and to facilitate address coding to the various units of the ASGS.

In regional and remote areas, gazetted localities were usually too small to represent a SA2 in their own right and were combined on the basis of whether they formed part of a functional area.

In the major cities, SA2s often represent single suburbs. Suburb size is variable within and between cities and they do not always make a convenient region to be used directly as a SA2. Where this occurs five general criteria have been used to cluster smaller suburbs together or break up extremely large suburbs:

- a shared road network
- shared community facilities
- Local Government Area boundaries

- shared historical or social links
- socio-economic similarity.

Local Government Area (LGA)

Local Government Area boundaries were considered in the design of the SA2s and were often adopted where the Local Government Area boundary satisfied one or more of the following:

- it closely aligned with gazetted suburb boundaries
- it reflected the underlying settlement pattern
- it represented the functional area of a regional town or city
- had a high degree of recognition amongst stakeholders
- it aligned to a significant recognisable geographical feature.

Zero SA2

Zero SA2s have a nil or nominal population. They are created to represent large unpopulated areas that are not easily combined with surrounding populated SA2s.

They may include:

- major infrastructure (ports, airports)
- significant bodies of water
- major commercial and industrial zones
- national parks
- defence land
- very large urban parks
- very large sporting precincts.

Special Purpose SA2

There are non-spatial SA2s for Migratory - Offshore - Shipping and No Usual Address in each State and Territory.

SA2 NAMES

The key criteria for SA2 names are that they be:

- meaningful
- have a maximum of 40 characters
- unique, i.e. not shared by any other SA2 in Australia.

In large urban areas, SA2s are named for the gazetted suburbs that comprise them:

- where a SA2 is made from a single suburb, it will retain the name of the suburb, for example:
  - Duffy (ACT)
  - Macgregor (ACT)

- where a single large suburb is split into more than one SA2, it will retain the name of the suburb and a geographic identifier, for example:
  - Mount Waverley - North
  - Mount Waverley - South.

- where a SA2 is made up from 2 or 3 suburbs, then the SA2 name is a concatenation of the suburb names, for example:
  - Greenfield Park - Prairiewood
  - Bayswater - Embleton - Bedford.

- where a SA2 is made up of 4 or more suburbs it will be named for the larger or more prominent suburbs, or given a local identifier, for example:
    - Homebush Bay - Silverwater
    - Pioneer Valley.

In rural areas, SA2s are named for the gazetted localities that comprise them, or the towns, city, or region with which they are associated, for example:

- Benalla Region
- Townsville - South
- Bulahdelah - Stroud.

Where a SA2 name is duplicated in two or more State and Territory, the State and Territory abbreviation is attached to the SA2 name, for example:

- O'Connor (ACT)
- O'Connor (WA).

SA2 CODING STRUCTURE

A SA2 is identifiable either by a 9-digit fully hierarchical code, or by a truncated 5-digit code comprising the State and Territory and SA2 identifiers. The SA2 identifier is a 4-digit code, assigned in alphabetical order within a SA3. A SA2 code is only unique within a State and Territory if it is preceded by the State and Territory identifier.

9-digit Code

A 9-digit SA2 code is fully hierarchical, and comprises: State and Territory identifier, Statistical Area Level 4 (SA4) identifier, SA3 identifier, SA2 identifier.

Example: 503021041 Perth City

S/T	SA4	SA3	SA2	SA2
5	03	02	1041	Perth City

5-digit Code

A 5-digit SA2 code is not hierarchical, and comprises only State and Territory identifier, SA2 identifier.

Example: 51041 Perth City

S/T	SA2	SA2 Name
5	1041	Perth City

Future Allocation of SA2 Codes

In the future, it may be necessary to allocate new codes. If a SA2 is abolished, or changes significantly for new editions of the ASGS, the SA2 identifier will be retired and the replacement SA2(s) given the next available previously unused SA2 identifier within the

State and Territory.

SA2 Identifier Ranges

Within each State and Territory, the SA2 identifier is in the data range 0001-7999. SA2 identifiers in the range 8000-8999 are reserved for processing within the ABS. The range 9000 to 9999 is reserved for special purpose SA2s.

Statistical Area Level 3 (SA3)

STATISTICAL AREA LEVEL 3 (SA3)

Statistical Areas Level 3 (SA3) are geographical areas built from whole Statistical Areas Level 2 (SA2). They have been designed for the output of regional data, including 2016 Census data. SA3s create a standard framework for the analysis of ABS data at the regional level through clustering groups of SA2s that have similar regional characteristics. Whole SA3s aggregate to form Statistical Areas Level 4 (SA4).

There are 358 spatial SA3 regions covering the whole of Australia without gaps or overlaps. These include 18 non-spatial SA3 special purpose codes comprising Migratory–Offshore–Shipping and No Usual Address codes for each State and Territory.

The Other Territories of Jervis Bay, Cocos (Keeling) Islands, Christmas Island and Norfolk Island are each represented by a SA3 in the 2016 Australian Statistical Geography Standard (ASGS).

DELIMITATION OF SA3

SA3s are designed to provide a regional breakdown of Australia. They generally have a population of between 30,000 and 130,000 people. In regional areas, SA3s represent the area serviced by regional cities that have a population over 20,000 people. In the major cities, SA3s represent the area serviced by a major transport and commercial hub. They often closely align to large urban Local Government Areas (e.g. Gladstone, Geelong). In outer regional and remote areas, SA3s represent areas which are widely recognised as having a distinct identity and similar social and economic characteristics.

There are a small number of "zero SA3s". These have an effective design population of zero and represent very large National Parks close to the outskirts of major cities.

The SA3s were designed using a number of criteria which reflect a balance between respective considerations. Listed below are the criteria in the approximate order of importance.

Population

In general, the SA3s are designed to have populations between 30,000 and 130,000 persons. The lack of specific statistical requirements provides the SA3s with considerable flexibility in terms of population variability and this allows the definition of

meaningful regional areas to take precedence over population criteria. As a result, there are a number of SA3s with populations above 130,000 or below 30,000.

Functional

SA3s are often the functional areas of regional towns and cities with a population in excess of 20,000 or clusters of related suburbs around urban commercial and transport hubs within the major urban areas.

Identifying Regions

The regional breakups have been designed to reflect regional identity. These are areas with both geographic and socio-economic similarities. In many cases, these areas are defined by existing administrative boundaries, such as State Regional Development Areas or one or more Local Government Areas.

Zero SA3

Zero SA3s have a nil or nominal population. They are created to represent large unpopulated areas that are not easily combined with surrounding populated SA3s, such as large National Parks on the fringes of large urban areas.

Special Purpose SA3

There are non-spatial SA3s for Migratory - Offshore - Shipping and No Usual Address in each State and Territory.

SA3 NAMES

The key criteria for SA3 names are that they be:

- meaningful
- have a maximum of 40 characters
- unique, i.e. not shared by any other SA3 in Australia.
- SA3s are named according to the areas they represent:
- where a SA3 represents a well-known regional area or a State Regional Development Area it is named after that region, for example:
    - Southern Highlands
    - Mid West.

- where a SA3 represents the functional area of a regional city it is named after that city, for example, Wagga Wagga. In some cases the name of an associated town or region is also included, for example:
    - Griffith - Murrumbidgee (West)

- where a SA3 represents an economic hub within a major city it is generally named to reflect that hub, for example:
    - Parramatta

- where a SA3 represents a group of related suburbs it is named after one or more of those suburbs that reflect its location and extent, for example:
    - North Sydney - Mosman
    - Brunswick - Coburg.

- where a SA3 name is not unique within Australia, it is followed by the State and

Territory abbreviation in brackets, for example:

- Central Highlands (Tas.)
- Central Highlands (Qld).

SA3 CODING STRUCTURE

A SA3 is identified by a 5-digit hierarchical code. This comprises a 1-digit State and Territory identifier followed by a 2-digit SA4 identifier, unique within each State and Territory, and a 2-digit SA3 identifier, unique within each SA4.

Example: 11401 Shoalhaven

S/T	SA4	SA3	SA3 Name
1	14	01	Shoalhaven

Future Allocation of SA3 Codes

In the future, it may be necessary to allocate new codes. If a SA3 is abolished, or changes significantly for new editions of the ASGS, the SA3 identifier will be retired and the replacement SA3(s) given the next available previously unused SA3 identifier within the SA4.

SA3 Identifier Ranges

Within each State and Territory, the SA3 identifier is in the data range 01-79. SA3 identifiers in the range 80-99 are reserved for special purpose SA3s.

Statistical Area Level 4 (SA4)

STATISTICAL AREA LEVEL 4 (SA4)

Statistical Areas Level 4 (SA4) are geographical areas built from whole Statistical Areas Level 3 (SA3s). The SA4 regions are the largest sub-State regions in the Main Structure of the Australian Statistical Geography Standard (ASGS), and have been designed for the output of a variety of regional data, including data from the 2016 Census of Population and Housing. They are specifically designed for the output of ABS Labour Force Survey data and therefore have population limits imposed by the Labour Force Survey sample. These areas represent labour markets or groups of labour markets within each State and Territory.

Whole SA4s aggregate to Greater Capital City Statistical Areas (GCCSA) and State and Territory. There are 107 SA4 regions covering the whole of Australia without gaps or overlaps. These include 18 non-spatial SA4 special purpose codes comprising Migratory–Offshore–Shipping and No Usual Address codes for each State and Territory.

The Other Territories of Jervis Bay, Cocos (Keeling) Islands, Christmas Island and Norfolk Island are together represented by a single SA4 in the 2016 ASGS.

DELIMITATION OF SA4

The SA4s were designed using a number of criteria which reflect a balance between respective considerations. Listed below are the criteria in the approximate order of importance.

Population

A minimum of 100,000 persons was set for the SA4s, although there are some exceptions to this. In regional areas, SA4s tend to have populations closer to the minimum (100,000 - 300,000). In metropolitan areas, the SA4s tend to have larger populations (300,000 - 500,000).

Labour Markets

Labour markets were a key consideration in the design of SA4s. The reason for this is that Labour force data has two geographic components to it - the labour supply (where people live) and demand (where people work). For statistical purposes, it is ideal to maximise the extent to which the region being analysed contains both sets of geographic locations. Labour markets are geographic regions, which reflect the highest degree of interconnectivity between the labour supply and demand. By reflecting labour markets, the output data is relevant to both labour supply and demand.

The ABS consulted with a number of experts on labour market geography and undertook analysis of the 2011 Census of Population and Housing travel to work data to identify labour markets within Australia. The resulting labour markets were characterised by a large number of very small regional labour markets, a smaller number of medium sized labour markets around regional centres, and very large labour markets representing the major metropolitan centres. While this may be an accurate reflection of Australian labour markets, many of the regions did not meet the minimum population criterion.

SA4s have also been designed to represent the labour markets of the largest regional cities such as Wollongong, Bendigo and Townsville. SA4s present specific labour force data on these cities' labour markets.

In outer regional and remote areas labour markets tend to be small and localised around regional towns. SA4s in these areas represent aggregations of these labour markets based on geographical, social and economic similarities. SA4s which contain only remote and regional areas enable a picture of regional and remote labour force activity to be presented.

The smaller regional labour markets were amalgamated based on travel to work interactions as well as industry and regional similarities to create SA4s of approximately 100,000 to 300,000 persons. The medium sized regional centre labour markets that exceeded 100,000 persons (for example Cairns, Qld) were preserved as far as possible as SA4s that directly represent the labour market, though in some cases small closely related labour markets were included in these SA4s. The very large major metropolitan labour markets were split to reflect major employment hubs and their primary labour supply catchments. These are generally larger population SA4s of 300,000 to 500,000 persons, reflecting the fact that they represent labour markets with large populations.

Special Purpose SA4

There are non-spatial SA4s for Migratory - Offshore - Shipping and No Usual Address in each State and Territory.

SA4 NAMES

The key criteria for SA4 names are that they be:

- meaningful
- have a maximum of 40 characters
- unique, i.e. not shared by any other SA4 in Australia.

SA4s are named according to the areas they represent:

- where a SA4 represents a labour market of a major city it is named after that city, for example:
  - Bendigo

- where a SA4 represents an employment centre within a larger city it is generally named to reflect both the larger city and the employment centre or part of the city that it represents, for example:
  - Melbourne - Inner South
  - Sydney - Blacktown

- where a SA4 represents a collection of labour markets in regional areas it is named using either a description of that part of the State and Territory or after one or more well-known regional areas that it closely replicates, for example:
  - Latrobe - Gippsland

- where this name does not identify it within Australia, it is generally preceded by the State and Territory name, for example:
  - Western Australia - Wheat Belt
  - Queensland - Outback.

SA4 CODING STRUCTURE

A SA4 is identified by a 3-digit hierarchical code. This comprises a 1-digit State and Territory identifier, which precedes a 2-digit SA4 identifier, which is unique within each State and Territory.

Example: 102 Central Coast

S/T	SA4	SA4 Name
1	02	Central Coast

Future Allocation of SA4 Codes

In the future, it may be necessary to allocate new codes. If a SA4 is abolished, or changes significantly for new editions of the ASGS, the SA4 identifier will be retired and the replacement SA4(s) given the next available previously unused SA4 identifier within the State and Territory.

SA4 Identifier Ranges

Within each State and Territory, the SA4 identifier is in the range 01- 79. SA4 identifiers in the range 80-99 are reserved for special purpose SA4s.

Australia (AUS) and State | Territory (S|T)

AUSTRALIA (AUS) AND STATE / TERRITORY (S/T)

Australia is the largest spatial unit in the Main Structure and in the Australian Statistical Geography Standard (ASGS). The ASGS uses the geographic definition of Australia described in further detail in the definition of Australia.

To align with the ISO 3166 standard the 2016 ASGS code for Geographic Australia is identified by the unique three-digit code of 036.

Australia is broken up into the States and Territories that are separately recognised in the ASGS:

- New South Wales
- Victoria
- Queensland
- South Australia
- Western Australia
- Tasmania
- Northern Territory
- Australian Capital Territory
- Jervis Bay Territory
- Territory of Christmas Island
- Territory of the Cocos (Keeling) Islands.
- Territory of Norfolk Island

These spatial units are political entities with fixed boundaries. Except for the last four mentioned Territories, the total area of each State and Territory, including their offshore islands, is used for statistical purposes as a separate spatial unit in the ASGS. Jervis Bay Territory, and the Territories of Christmas Island, Cocos (Keeling) Islands and Norfolk Island are included as one spatial unit at the State and Territory level under the category of Other Territories.

Prior to 2016 Norfolk Island was not included in the ASGS. In line with Australian Government announced reforms to the governance of Norfolk Island and its inclusion into the definition of Geographic Australia, the 2016 ASGS has been updated to include the Territory of Norfolk Island.

States and Territories consist of one or more Statistical Areas Level 4. In aggregate, they cover Australia without gaps or overlaps.

States and Territories are identified by unique one-digit codes within Australia as follows:

State and Territory Codes and Names

Code	S/T
1	New South Wales
2	Victoria
3	Queensland
4	South Australia
5	Western Australia
6	Tasmania
7	Northern Territory
8	Australian Capital Territory
9	Other Territories

Greater Capital City Statistical Areas (GCCSA)

GREATER CAPITAL CITY STATISTICAL AREA (GCCSA)

Greater Capital City Statistical Areas (GCCSA) are geographical areas built from Statistical Areas Level 4 (SA4) and are designed to represent the functional extent of each of the eight State and Territory capital cities. They were designed to reflect labour markets using the 2011 Census travel to work data. Because of this the GCCSAs reflect the labour market of each capital city. The labour market is sometimes used as a de-facto measure of the functional extent of a city as it contains the majority of the commuting population.

This definition is designed to include the population within the urban area of the city, as well as people who regularly socialise, shop or work within the city, and live in small towns and rural areas surrounding the city. It is important to note that GCCSAs do not define the built up edge of the city. They provide a stable definition for these cities and are designed for the output of a range of social and economic survey data. Within each State and Territory, the area not defined as being part of the Greater Capital City is represented by a Rest of State region.

There are 16 spatial GCCSA regions covering the whole of Australia without gaps or overlaps. These consist of 8 regions representing each of the Australian State and Territory capital cities, and 8 regions covering the rest of each State and the Northern Territory. The ACT only has one GCCSA region for the entire Territory. The category of Other Territories in GCCSA includes the Other Territories of Jervis Bay, Christmas Island, Cocos (Keeling) Islands and Norfolk Island.

In addition to these 16 spatial GCCSA regions are 18 non-spatial GCCSA special purpose codes, adding to a total of 34 GCCSAs. These special purpose codes include Migratory–Offshore–Shipping and No Usual Address codes for each State and Territory.

GCCSAs are not bound by a minimum population size criterion.

DELIMITATION OF GCCSA

Population

GCCSAs do not have population criteria.

Functional

As GCCSAs are designed to represent a socio-economic definition of each of the eight State and Territory capital cities, this means the greater capital city boundary includes people who regularly socialise, shop or work within the city, but live in the small towns and rural areas surrounding the city. It does not define the built up edge of the city.

GCCSA NAMES

GCCSAs are named according to the cities they represent, for example, Greater Sydney.

The remainder of the State and Territory is named Rest of <State>, for example, Rest of NSW.

The exceptions to this are the ACT, as the whole of the ACT is included in the GCCSA, and the OTs, which do not have a capital city.

GCCSA CODING STRUCTURE

A GCCSA is identified by a 5-character alphanumeric code. This comprises a 1-digit State and Territory identifier followed by a 4-character GCCSA identifier that is unique within each State and Territory.

Example 1:

1GSYD Greater Sydney
- State and Territory identifier: 1
- GCCSA identifier: GSYD

Example 2:

Rest of NSW - 1RNSW
- State and Territory identifier: 1
- GCCSA identifier: RNSW

Special Purpose GCCSA

There are non-spatial GCCSAs for Migratory - Offshore - Shipping and No Usual Address in each State and Territory.

Special purpose codes

SPECIAL PURPOSE CODES

PURPOSE

Special purpose codes allow address data to be coded to a non-spatial value. This occurs where there is insufficient information to code to a physical geographic area. For example, where someone is in transit on Census night or where an incomplete address has been supplied. They have been created for each hierarchical level within the Main Structure and the Greater Capital City Statistical Area (GCCSA) Structure.

TYPES OF SPECIAL PURPOSE CODES

Migratory

Migratory is used to code people who are in transit on long distance trains, buses, aircraft and long haul road transport vehicles on Census night.

Offshore

Offshore is used to code people on oil rigs and drilling platforms etc. It is also used for expeditioners in the Australian Antarctic Territory.

Shipping

Shipping is used to code people who are on board vessels in Australian waters, in or between Australian ports on Census night.

No Usual Address

No Usual Address is used to code people with no fixed place of abode.

SPECIAL PURPOSE CODE STRUCTURE

The following examples show the special code structure for New South Wales.

Mesh Block Special Purpose Codes
Migratory - Offshore - Shipping

S/T	Mesh Blocks	Description
1	8000000778	MIGRATORY
1	9000000779	OFFSHORE
1	7000005777	SHIPPING
1	7000004777	SHIPPING
1	7000003777	SHIPPING
1	7000002777	SHIPPING
1	7000001777	SHIPPING

No usual residence

S/T	Mesh Blocks	Description
1	0000009499	NOUSUALRESIDENCE

SA1, SA2, SA3, SA4 Special Purpose Codes

Migratory - Offshore - Shipping

S/T	SA4	SA3	SA2	SA1	Description
1	97	97	9799	91	Migratory
1	97	97	9799	92	Offshore
1	97	97	9799	93	Shipping

There are no Migratory or Offshore Statistical Area Level 1 (SA1) for the Other Territories.

There are no Offshore or Shipping SA1s for the ACT.

No Usual Address

S/T	SA4	SA3	SA2	Description
1	99	99	9499	No Usual Address (S/T)

GCCSA Special Purpose Codes
Migratory - Offshore - Shipping

S/T	GCCSA	Description
1	9799	Migratory - Offshore - Shipping (S/T)

No Usual Address

S/T	GCCSA	Description
1	9499	No Usual Address (S/T)

COLLECTION SPECIFIC CODING CONVENTIONS

ABS collections use various conventions to denote circumstances such as: not applicable, overseas visitors etc. These will be explained in the supporting documentation for each release.

ASGS Maintenance

ASGS MAINTENANCE

ASGS MAINTENANCE

A new edition of the Australian Statistical Geography Standard (ASGS) manual is anticipated to be published in 2021. That version of the ASGS is timed for release for use with the Census of Population and Housing. All levels and regions of the ASGS will be reviewed for the next ASGS edition. This chapter summarises the terms of the review and an approximate time frame.

MESH BLOCKS

Prior to the next ASGS edition, the Mesh Blocks will be reviewed and where appropriate redesigned, to reflect:

- new development
- changes in land use
- alignment to physical features
- alignment to administrative boundaries.

Where possible, changes will be accommodated by simple splits of existing Mesh Blocks.

ABS STRUCTURES

The ABS will publish the ABS Structures with each new ASGS edition. Between ASGS editions, the ABS will monitor and assess feedback on their conceptual basis and usefulness.

Main Structure and Greater Capital City Statistical Area (GCCSA)

The following principles will be applied to any redesign of the Main Structure and GCCSAs:

- the boundaries for a region will not be changed unless they no longer meet the design criteria for that class of region
- where possible, changes will be accommodated by simple splits of existing regions
- where it is not possible for changes to be accommodated by a simple split they will, as far as possible, be based on amalgamation and redistribution of whole regions from the next level down in the hierarchy
- regions will be designed with a view to them remaining stable
- minor boundary alignment changes will be made to maintain the alignment to the underlying physical geography.

Statistical Area Level 1 to Statistical Area Level 4 will not necessarily be changed to reflect changes in administrative boundaries, such as Local Government Areas or Postcodes.

Other ABS Structures

Feedback on the conceptual basis of Indigenous Structure, Remoteness Areas, Urban Centres and Localities/Section of State and Significant Urban Areas will be monitored and assessed prior to the 2016 Census of Population and Housing. A substantial review of the Indigenous Structure is anticipated prior to the release of the next edition of the ASGS.

NON ABS STRUCTURES

Non ABS Structures will be reviewed annually to accommodate any hierarchy or boundary changes. The ABS will provide supporting documentation, tables and correspondences between the Non ABS Structure and relevant regions of the ASGS. Generally, the revised structure will come into effect on 1 July each year. This may be brought forward for structures with critical stakeholder needs or for those which undergo substantial change.

NEW STRUCTURES

New ABS and Non ABS Structures can be considered for inclusion into the ASGS if they meet the following criteria:

- they satisfy the classification principles of the ASGS
- they can be built up from or reasonably approximated by MB
- they are generally accepted and will be used by a wide range of key stakeholders
- the ABS is able to publish data for the proposed regions.

The process for introducing a new structure into the ASGS is:

- the ABS accepts a stakeholder case to include a new structure
- if the structure is accepted, the ABS will develop or support the new structure classification
- the ABS will then publish the new structure.

Stability and Change in the ASGS

STABILITY AND CHANGE IN THE ASGS

This 2016 edition of the Australian Statistical Geography Standard (ASGS) is the first update to the original edition released in 2011. This chapter describes the degree and manner in which the Main Structure regions have changed in the five years since they were first released, as well as outlining other significant updates incorporated into the 2016 edition of the ASGS.

2016 ASGS STRUCTURES - SIGNIFICANT CHANGES

Significant changes introduced with the 2016 edition include the addition of a boundary and code for Australia, as well as the incorporation of Norfolk Island into the ASGS. The Non ABS structures are now primarily approximated using Mesh Blocks and this means that the boundaries for State Suburbs, Postal Areas, Natural Resource Management Regions and Australian Drainage Divisions are all approximated far more accurately than they were in 2011.

IMPROVED STABILITY FOR ASGS STATISTICAL AREAS

Separating the ABS defined statistical areas from other administrative areas, particularly Local Government Areas, was a key difference in the design of the ASGS compared to the previous Australian Standard Geographical Classification (ASGC). This was done to reduce the impact of Local Government Area changes on ABS designed statistical areas, allowing them to better meet the requirements of statistical datasets and have greater stability for improved comparison of statistical data over time.

Changes to the boundaries of ABS defined areas in the ASGS are still required to reflect changes occurring on the ground, such as new housing developments or transport infrastructure. However, these changes are carefully balanced against the strong desire to maintain stability and continuity with the previous versions of the ASGS. As a result of these changes there have been increases in the number of areas included in all the structures from Mesh Blocks up to Statistical Areas Level 4 (SA4s) as shown in the table below.

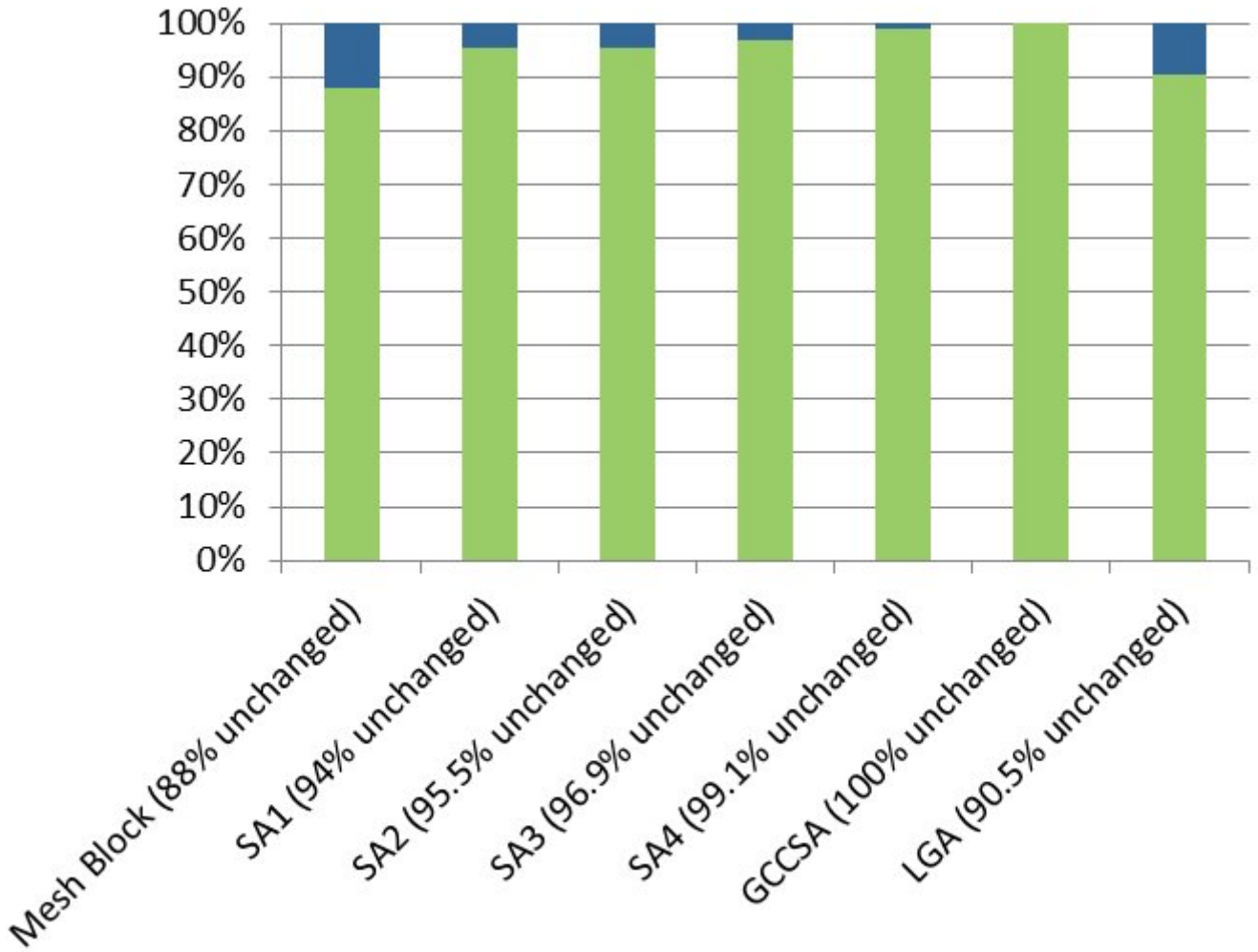
Table 1: Change in numbers of Statistical Areas of ASGS Main Structure from 2011 to 2016

ASGS Edition	Mesh Block	SA1	SA2	SA3	SA4	GCCSA
2011	347,627	54,805	2,214	351	106	34
2016	358,122	57,523	2,310	358	107	34
Increase between 2011 - 2016	10,495	2,718	96	7	1	0

The amount of change to the ASGS Main Structure statistical areas is small in comparison to the change that occurred in previous editions of the ASGC and this was a key reason for the implementation of the ASGS. This increased stability of statistical areas in the ASGS allows better comparison of data over time.

Increased stability in the ASGS is illustrated by Figure 1 below showing the percentage of Main Structure statistical areas and Mesh Blocks that have remained effectively unchanged between 2011 and 2016. This level of change has been measured using the 2011 to 2016 population based geographic correspondences, it does not take into account changes that impact area with no population. The larger the region the less likely it is to change as it is better able to absorb changes in population while staying within the defined criteria. The stability of the ASGS is highlighted by comparison with the Local Government Areas. Between 2011 and 2016, 9.5% of Local Government Areas changed, this is more than twice the level of change when compared to similarly sized ASGS Main Structure areas such as SA2s (4.5% change) and SA3s (3.1% change).

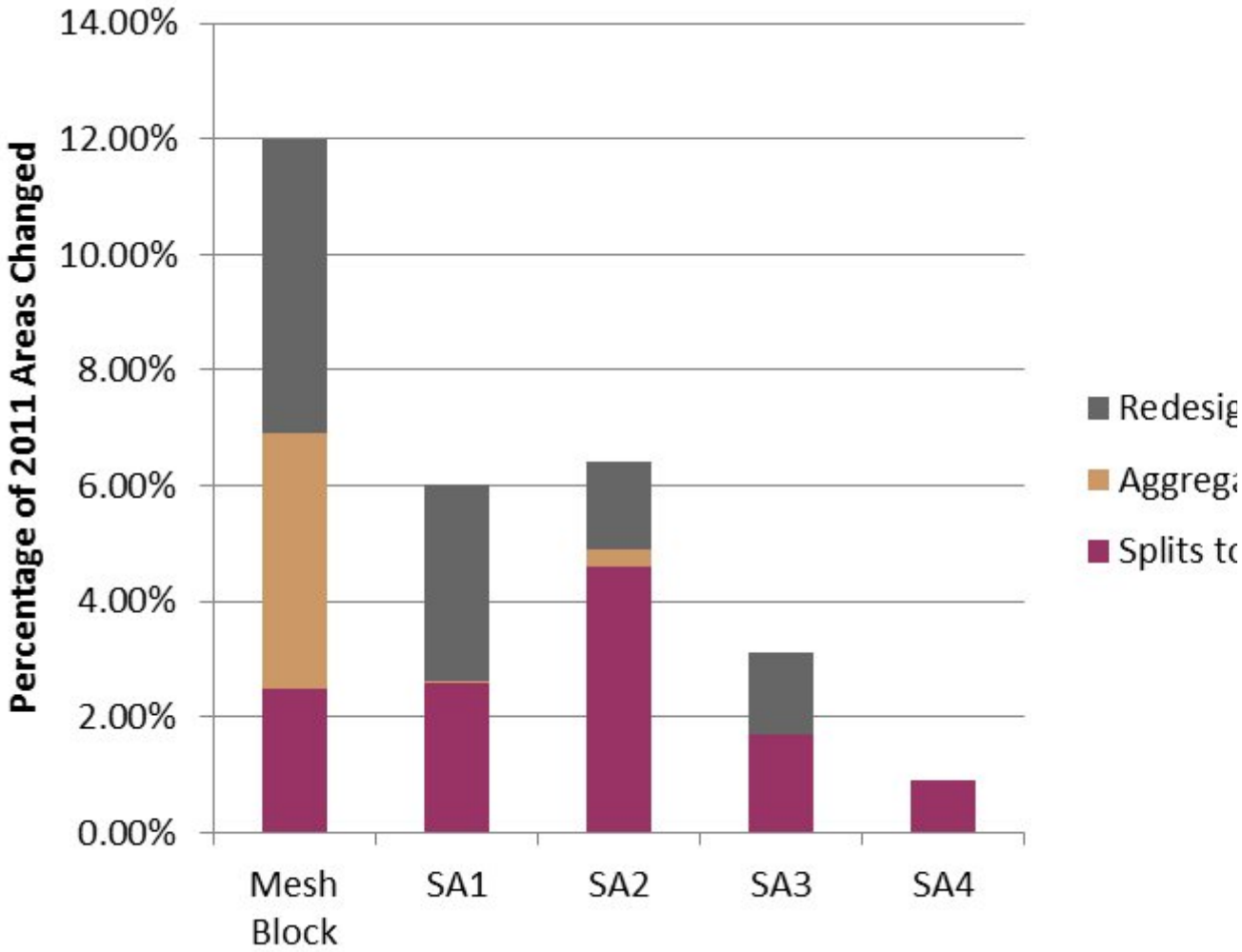
Figure 1: Percentage of 2011 ASGS Statistical Areas remaining effectively unchanged in the 2016 ASGS



REASONS FOR CHANGE IN ASGS STATISTICAL AREAS

Although stability in the ABS defined statistical areas is important, it is also necessary to change some areas to continue to meet the requirements of the statistical data that is published on them or to better reflect the changing settlement patterns they represent. These changes can occur in three main ways; splits, amalgamations and redesign. The nature and extent of these changes for the main structure is shown in the chart below.

Figure 2: Types of change to ASGS Main Structure Areas (Percentage of 2011 Areas changed)



Where possible, changes to 2011 areas are made by splitting the areas into two or more 2016 areas. This minimises the extent of change to boundaries and allows the 2016 areas to be easily grouped together for comparison with the 2011 areas. Figure 2 highlights that for SA2s, SA3s and SA4s the majority of changes have been made through splits. For the smaller more detailed areas such as SA1s and Mesh Blocks the narrower population criteria means that changes by splits are not always possible and redesign changes are more likely to be required to manage changes to settlement patterns and infrastructure in these areas. For Mesh Blocks in particular, a large number of amalgamations have occurred. Many of these amalgamations were to reduce the number of Mesh Blocks covering zero population areas where these areas were excessively split in the 2011 edition of Mesh Blocks. To better illustrate why these changes occur a number of examples are shown below.

Figure 3: Image showing an example of SA1 splits to reflect growth

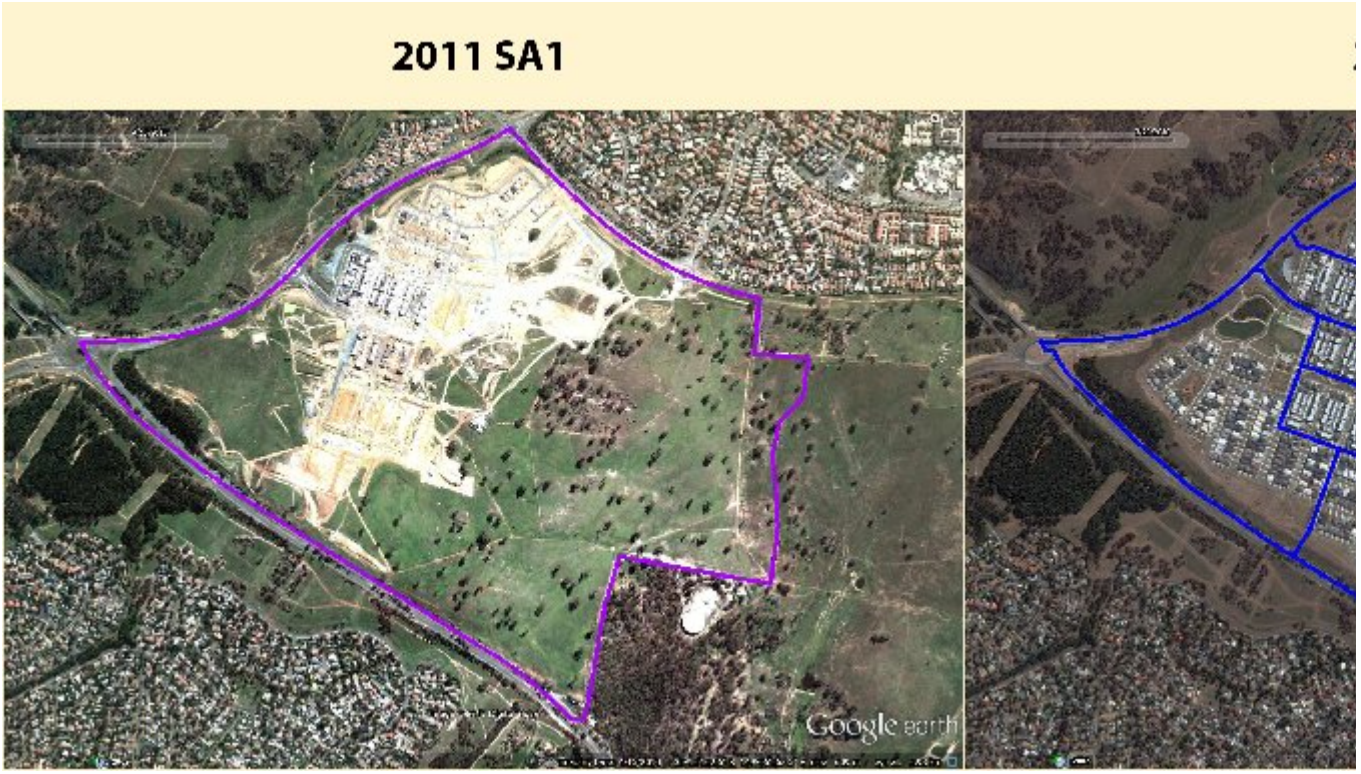


Image © 2017 DigitalGlobe

Where possible the boundaries are split to accommodate growth. In the example in Figure 3, the 2011 area had only started to show signs of development and was covered by one SA1 which enabled data to be released on the small population in the area at that time. However, in 2016 the whole area has been developed and the 2011 SA1 has been split into 13 new SA1s. This allows users to analyse data in greater spatial detail. The original 2011 SA1 boundary can still be seen, meaning surrounding SA1s are not impacted and the 2016 data can be compared with that from 2011.

Figure 4: Image showing an example of SA2 amalgamations to meet statistical criteria

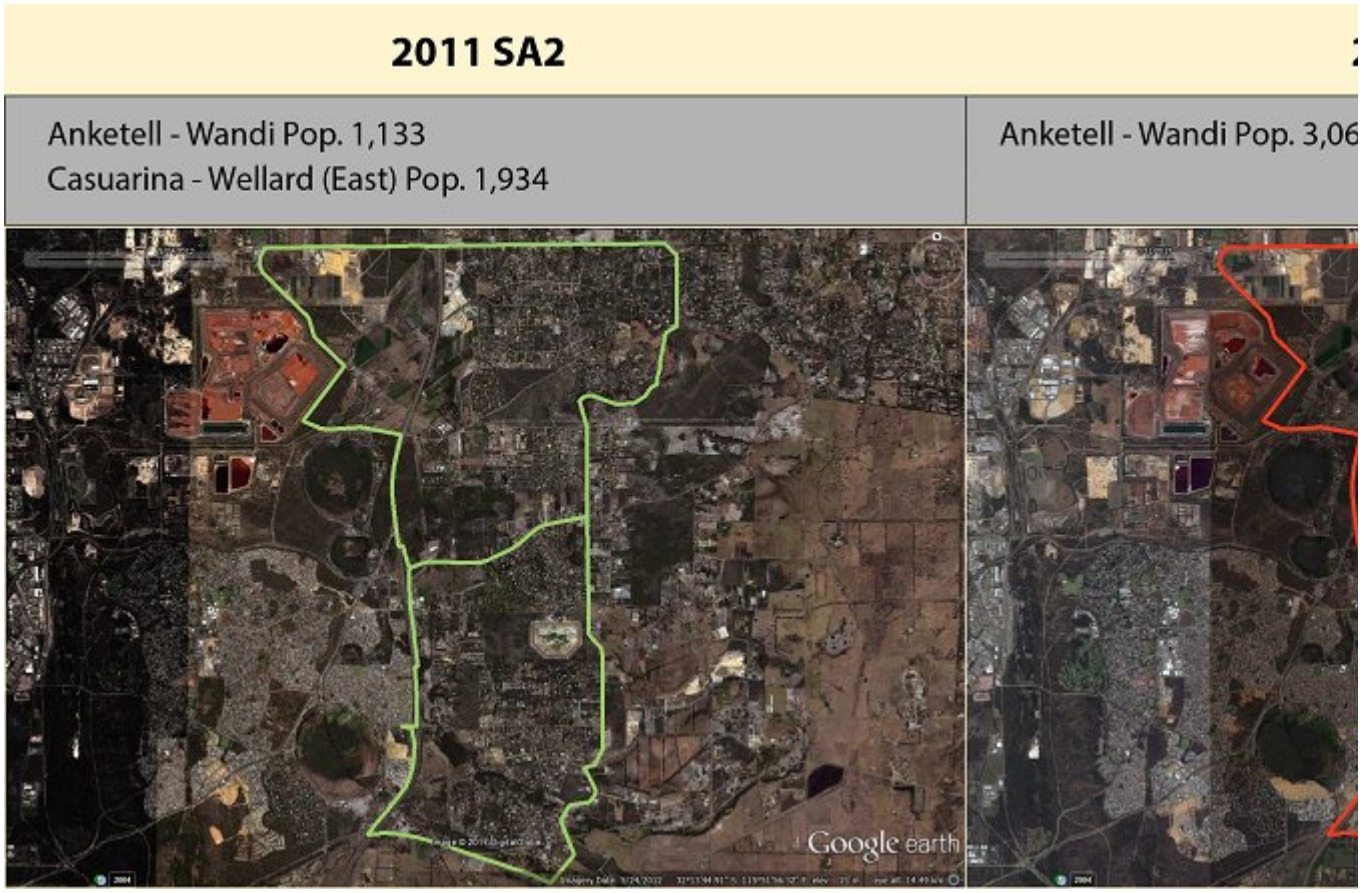


Image © 2017 DigitalGlobe

The original design of the ASGS statistical areas relied on data such as the Geocoded National Address File (G-NAF) and the cadastral (property) boundaries, which generally reflected settlement patterns. In a very small number of cases, the 2011 areas did not have the populations that were predicted by these data during the original design phase, which meant they did not meet the population criteria set for them. In the example in Figure 4, the 2011 SA2s on the left (Anketell – Wandi and Casuarina – Wellard (East)) have been combined to form the 2016 SA2 of Anketell – Wandi, shown on the right. This change ensures that the 2016 SA2 has a population over 3,000 people, which enables more accurate Estimated Resident Population (ERP) data to be produced for this area.

Figure 5: Image showing an example of Mesh Block amalgamations

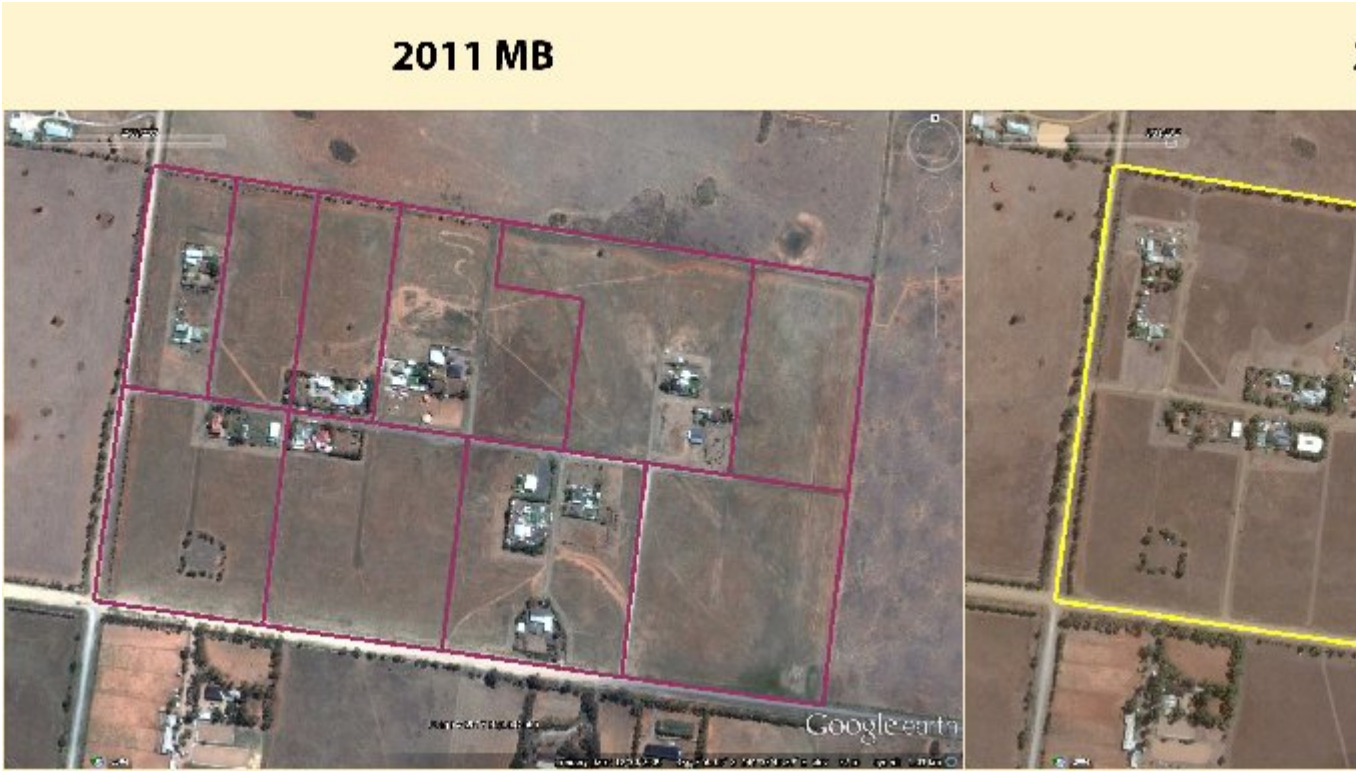


Image © 2017 DigitalGlobe

Many of the Mesh Block amalgamations have been done to correct issues with the automated process originally used to create Mesh Blocks. When Mesh Blocks were first created, G-NAF and cadastre were used to automatically create the areas. The combination of duplicate records in the early versions of the G-NAF and the lack of imagery in the early development of Mesh Blocks led to some Mesh Blocks representing non-existent settlements. As can be seen in the example in Figure 5, some of the 2011 Mesh Blocks include only one or zero dwellings. The relatively large number of amalgamations for Mesh Blocks reflects efforts to address issues like these. The level of change resulting from these issues will not occur across future editions of the ASGS Mesh Blocks.

Figure 6: Images showing an example of boundary redesign to account for new growth

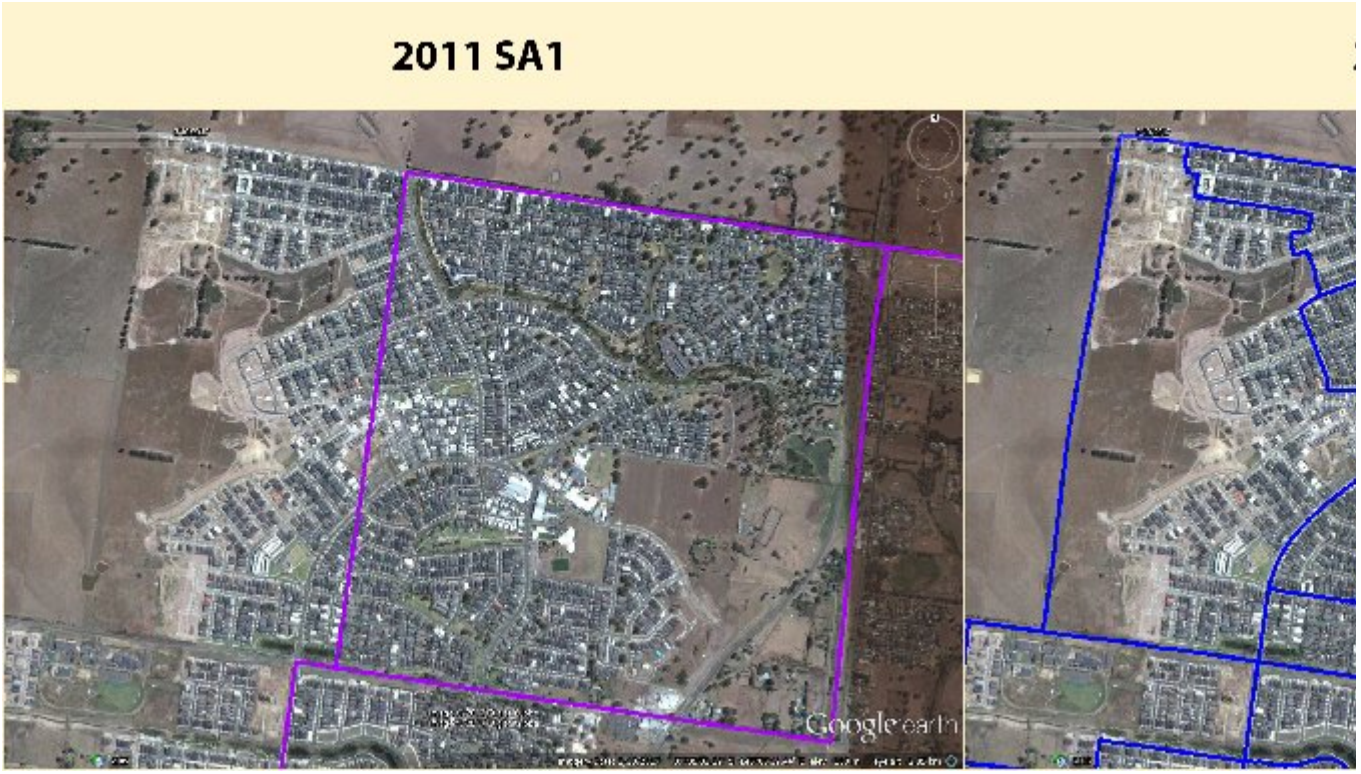


Image © 2017 DigitalGlobe

When an area undergoes significant growth, as far as possible, the boundaries are split to accommodate the new growth. Occasionally a straight split is not appropriate when the original boundary is no longer sensible, particularly where the underlying growth has not occurred in the way that was anticipated. This is the case in the example in Figure 6, shown above, where the 2011 SA1 boundary is shown against the 2016 imagery (on the left) and cuts straight through dwellings. For 2016 the SA1 boundary was realigned to follow roads and other boundaries added to divide the growth into areas meeting the SA1 population criteria. Redesigning boundaries in this way in these high growth areas has minimal effect on the comparability of data over time as these areas generally contained little or no population in 2011.

CHANGES TO ASGS CODES

ASGS users should be aware that the codes and names that are associated with statistical areas can also change when an area changes. In addition, where changes occur in the larger Statistical Area regions this can result in changes to the code for the smaller areas contained within them, even if one of these smaller areas has not changed itself. This occurs because the ABS Structures within the ASGS have a hierarchical coding system, meaning the smaller areas carry the codes associated with the larger areas. For example an SA2 may not have changed but if it is within an SA3 that has changed, then both the SA3 and SA2 code will have changed along with all other SA2 and SA1 codes within that SA3.

For more information on ASGS code changes please refer to Appendix 2: ASGS Coding and Labelling Changes.

UNDERSTANDING CHANGE IN THE ASGS

The ABS provides several resources to help users understand these changes to boundaries and codes and to manage data across different ASGS editions and other geographies.

Geographic correspondences document the overlaps between two sets of regions. They provide a percentage for data allocation between the overlaps that are based on estimates of the population distribution with the two regions. Geographic correspondences between

2011 and 2016 editions of statistical areas are available in the downloads tab of the relevant ASGS publication. These can be used to understand the relationships between 2011 and 2016 areas and to convert data from 2011 ASGS regions to 2016 regions.

ABS Maps is an online mapping tool that allows users to visually compare two different sets of boundaries across different editions of the ASGS. This allows users to examine the nature and extent of individual boundary changes in their area of interest.

About this Release

This publication is the first in a series of five yearly Volumes that details the various structures and regions of the Australian Statistical Geographic Standard (ASGS). This 2016 standard provides a common framework of statistical geography used by the ABS and other organisations to enable the publication of statistics that are comparable and spatially integrated. The ASGS provides users with an integrated set of standard regions that they can use to access, visualise, analyse and understand statistics produced by the ABS and other organisations.

Volume 1 outlines the building block and conceptual basis of the standard, Mesh Blocks, regions of the main structure, the Greater Capital City Statistical Areas and their relationships to each other. These boundaries have been updated taking into account real world changes relating to population and infrastructure. Digital boundaries and allocation tables for these regions can be obtained as downloads within this product

History of Changes

This document was added or updated on 24/07/2017.

24/07/2017 Changes include an additional chapter providing information on the extent of change and stability between the 2011 and 2016 edition of the Australian Statistical Geography Standard (ASGS). Digital boundaries for Australia are also included as additional data cubes. This change is reflected in the document content.

Explanatory Notes

Metadata for Digital Boundary Files

METADATA FOR DIGITAL BOUNDARY FILES

Australian Statistical Geography Standard (ASGS) Volume 1 - Main Structure and Greater Capital City Statistical Areas (cat no. 1270.0.55.001)

Date of Publication/ Date Stamp : 12 July 2016

Presentation Format: Digital boundaries

CUSTODIAN

Custodian: Australian Bureau of Statistics (ABS)

DESCRIPTION

Abstract:

The Australian Statistical Geography Standard (ASGS) brings together in one framework all of the regions which the ABS and many others organisations use to collect, release and analyse geographically classified statistics. The ASGS ensures that these statistics are comparable and geospatially integrated and provides users with an coherent set of standard regions so that they can access, visualise, analyse and understand statistics. The 2016 ASGS will be used for the 2016 Census of Population and Housing and progressively introduced into other ABS data collections. The ABS encourages the use of the ASGS by other organisations to improve the comparability and usefulness of statistics generally, and in analysis and visualisation of statistical and other data.

This publication, **Australian Statistical Geography Standard (ASGS) Volume 1 - Main Structure and Greater Capital City Statistical Areas** (cat no. 1270.0.55.001), deals with the ASGS Main Structure (Statistical Areas Level 1 - 4) and the Greater Capital City Statistical Areas (GCCSA). It outlines the conceptual basis of the ASGS Main Structure and the GCCSAs and their relationships to each other. This product contains several elements including the ASGS manual, allocation tables, correspondences and the digital boundaries current for the ASGS Edition 2016 (date of effect 1 July 2016).

The digital boundaries for Volume 1 of the ASGS are the region types for the main structure and the GCCSAs. These region types are:

- Mesh Block (MB)
- Statistical Area Level 1 (SA1)
- Statistical Area Level 2 (SA2)
- Statistical Area Level 3 (SA3)
- Statistical Area Level 4 (SA4)
- Greater Capital City Statistical Areas (GCCSA)
- State and Territory (S/T)
- Australia (AUS).

File Nomenclature:

Mesh Block file names have the format <file type>_<2016>_<STATE> where:
<file type> represents the type of boundaries in each file
MB = Mesh Block
<2016> represents 2016 the year of the Australian Statistical Geography Standard (ASGS) Edition
< STATE> indicates the data covers a State as defined in the ASGS manual

Other file names have the format <file type>_<2016>_<AUST> where:
<file type> represents the type of boundaries in each file
SA1 = Statistical Area Level 1
SA2 = Statistical Area Level 2

SA3 = Statistical Area Level 3
SA4 = Statistical Area Level 4
GCCSA = Greater Capital City Statistical Area
STE = State and Territory
AUS = Australia
<2016> represents 2016 the year of the Australian Statistical Geography Standard (ASGS) Edition
< AUST> indicates the data covers all of Australia as defined in the ASGS manual

Within the files, the States and Territories are identified by unique one digit codes.

State and Territory Codes and Names

Code	S/T
1	New South Wales
2	Victoria
3	Queensland
4	South Australia
5	Western Australia
6	Tasmania
7	Northern Territory
8	Australian Capital Territory
9	Other Territories

File Attributes:

All tables show file type, file name, spatial unit field and the data type.

File Type: Mesh Block (MB)

File Name (s): MB_2016_NSW; MB_2016_VIC; MB_2016_QLD; MB_2016_SA; MB_2016_WA; MB_2016_TAS; MB_2016_NT; MB_2016_ACT & MB_2016_OT

Count	Field (mid/mif, TAB and GeoPackage)	Field (ESRI .shp)	Data Type	Ideal Length	Provided Length
1	MB_CODE_2016	MB_CODE16	Character	11	11
2	MB_CATEGORY_2016	MB_CAT16	Character	50	30
3	SA1_MAINCODE_2016	SA1_MAIN16	Character	11	11
4	SA1_7DIGITCODE_2016	SA1_7DIG16	Character	7	28
5	SA2_MAINCODE_2016	SA2_MAIN16	Character	9	9
6	SA2_5DIGITCODE_2016	SA2_5DIG16	Character	5	20
7	SA2_NAME_2016	SA2_NAME16	Character	50	50
8	SA3_CODE_2016	SA3_CODE16	Character	5	5
9	SA3_NAME_2016	SA3_NAME16	Character	50	50
10	SA4_CODE_2016	SA4_CODE16	Character	3	3
11	SA4_NAME_2016	SA4_NAME16	Character	50	50
12	GCCSA_CODE_2016	GCC_CODE16	Character	5	5
13	GCCSA_NAME_2016	GCC_NAME16	Character	50	50
14	STATE_CODE_2016	STE_CODE16	Character	1	3
15	STATE_NAME_2016	STE_NAME16	Character	50	50
16	AREA_ALBERS_SQKM	AREASQKM16	Float		

File Type: Statistical Area Level 1 (SA1)

File Name (s): SA1_2016_AUST

Count	Field (mid/mif, TAB and GeoPackage)	Field (ESRI shp)	Data Type	Ideal Length	Provided Length
1	SA1_MAINCODE_2016	SA1_MAIN16	Character	11	11
2	SA1_7DIGITCODE_2016	SA1_7DIG16	Character	7	28
3	SA2_MAINCODE_2016	SA2_MAIN16	Character	9	9
4	SA2_5DIGITCODE_2016	SA2_5DIG16	Character	5	20
5	SA2_NAME_2016	SA2_NAME16	Character	50	50
6	SA3_CODE_2016	SA3_CODE16	Character	5	5
7	SA3_NAME_2016	SA3_NAME16	Character	50	50
8	SA4_CODE_2016	SA4_CODE16	Character	3	3
9	SA4_NAME_2016	SA4_NAME16	Character	50	50
10	GCCSA_CODE_2016	GCC_CODE16	Character	5	5
11	GCCSA_NAME_2016	GCC_NAME16	Character	50	50
12	STATE_CODE_2016	STE_CODE16	Character	1	3
13	STATE_NAME_2016	STE_NAME16	Character	50	50
14	AREA_ALBERS_SQKM	AREASQKM16	Float		

File Type: Statistical Area Level 2 (SA2)

File Name (s): SA2_2016_AUST

Count	Field (mid/mif, TAB and GeoPackage)	Field (ESRI shp)	Data Type	Ideal Length	Provided Length
1	SA2_MAINCODE_2016	SA2_MAIN16	Character	9	9
2	SA2_5DIGITCODE_2016	SA2_5DIG16	Character	5	20
3	SA2_NAME_2016	SA2_NAME16	Character	50	50
4	SA3_CODE_2016	SA3_CODE16	Character	5	5
5	SA3_NAME_2016	SA3_NAME16	Character	50	50
6	SA4_CODE_2016	SA4_CODE16	Character	3	3
7	SA4_NAME_2016	SA4_NAME16	Character	50	50
8	GCCSA_CODE_2016	GCC_CODE16	Character	5	5
9	GCCSA_NAME_2016	GCC_NAME16	Character	50	50
10	STATE_CODE_2016	STE_CODE16	Character	1	3
11	STATE_NAME_2016	STE_NAME16	Character	50	50
12	AREA_ALBERS_SQKM	AREASQKM16	Float		

File Type: Statistical Area Level 3 (SA3)

File Name (s): SA3_2016_AUST

Count	Field (mid/mif, TAB and GeoPackage)	Field (ESRI shp)	Data Type	Ideal Length	Provided Length
1	SA3_CODE_2016	SA3_CODE16	Character	5	5
2	SA3_NAME_2016	SA3_NAME16	Character	50	50
3	SA4_CODE_2016	SA4_CODE16	Character	3	3
4	SA4_NAME_2016	SA4_NAME16	Character	50	50
5	GCCSA_CODE_2016	GCC_CODE16	Character	5	5
6	GCCSA_NAME_2016	GCC_NAME16	Character	50	50
7	STATE_CODE_2016	STE_CODE16	Character	1	3
8	STATE_NAME_2016	STE_NAME16	Character	50	50
9	AREA_ALBERS_SQKM	AREASQKM16	Float		

File Type: Statistical Area Level 4 (SA4)

File Name (s): SA4_2016_AUST

Count	Field (mid/mif, TAB and GeoPackage)	Field (ESRI shp)	Data Type	Ideal Length	Provided Length
1	SA4_CODE_2016	SA4_CODE16	Character	3	3
2	SA4_NAME_2016	SA4_NAME16	Character	50	50
3	GCCSA_CODE_2016	GCC_CODE16	Character	5	5
4	GCCSA_NAME_2016	GCC_NAME16	Character	50	50
5	STATE_CODE_2016	STE_CODE16	Character	1	3
6	STATE_NAME_2016	STE_NAME16	Character	50	50
7	AREA_ALBERS_SQKM	AREASQKM16	Float		

File Type: Greater Capital City Statistical Area (GCCSA)

File Name (s): GCCSA_2016_AUST

Count	Field (mid/mif, TAB and GeoPackage)	Field (ESRI shp)	Data Type	Ideal Length	Provided Length
1	GCCSA_CODE_2016	GCC_CODE16	Character	5	5
2	GCCSA_NAME_2016	GCC_NAME16	Character	50	50
3	STATE_CODE_2016	STE_CODE16	Character	1	3
4	STATE_NAME_2016	STE_NAME16	Character	50	50
5	AREA_ALBERS_SQKM	AREASQKM16	Float		

File Type: State and Territory (S/T)

File Name (s): STE_2016_AUST

Count	Field (mid/mif, TAB and GeoPackage)	Field (ESRI shp)	Data Type	Ideal Length	Provided Length
1	STATE_CODE_2016	STE_CODE16	Character	1	3
2	STATE_NAME_2016	STE_NAME16	Character	50	50
3	AREA_ALBERS_SQKM	AREASQKM16	Float		

File Type: Australia (AUS)

File Name (s): AUS_2016_AUST

Count	Field (mid/mif, TAB and GeoPackage)	Field (ESRI shp)	Data Type	Length	ESRI shp Length
1	AUS_CODE_2016	AUS_CODE16	Character	3	3
2	AUS_NAME_2016	AUS_NAME16	Character	10	50
3	AREA_ALBERS_SQKM	AREASQKM16	Float		

XML METADATA FILE

The compressed download files include geospatial metadata data for each region type in Extensible Markup Language (XML) format. The geospatial metadata conforms to International Organisation for Standardization (ISO) geospatial metadata standard, ISO 19115:2003, and the associated XML implementation schema specified by ISO 19139:2012.

DATA CURRENCY

Date of Effect: 12 July 2016

DATASET STATUS

Progress: Completed dataset

Maintenance and Update Frequency: No further updates for these boundaries planned. There will be a progressive release of the other regions that make up the ASGS until late 2018 (ASGS Volumes 2, 3, 4 and 5). The ASGS will be revised in 2021.

ACCESS

Stored Data Format:

Digital as separate files for each level of the Main Structure and GCCSA of the ASGS 2016.

Available Format:

The digital boundary files are in MapInfo TAB format (.TAB), MapInfo Interchange Format (.MID .MIF), Geopackage and ESRI Shapefile (.shp) format.

Spatial Representation Type:

Vector

Access Constraints:

Datum:

Geocentric Datum of Australia 1994 (GDA94)

The digital boundary files have the datum specified as 116 (GDA94). Users of MapInfo 6.0 or later are able to load data sets based on GDA94 directly, without transformation. Earlier versions of MapInfo cannot interpret GDA94 correctly and there may be alignment problems between data sets based on this datum and other earlier datums.

Projection:

Geographical (i.e. Latitudes and Longitudes)

Geographic Extent:

Geographic Australia.

Extent - Geographic Bounding Box:

North Bounding Latitude: -8
South Bounding Latitude: -45
West Bounding Latitude: 96
East Bounding Latitude: 169

DATA QUALITY

Lineage:

Mesh Block boundaries were created using various sources including the PSMA digital datasets and ABS boundaries, zoning information from state planning agencies and imagery.

Positional Accuracy:

Positional accuracy is an assessment of the closeness of the location of the spatial objects in relation to their true positions on the earth's surface.

The positional accuracy includes:

- a horizontal accuracy assessment
- a vertical accuracy assessment

Positional accuracy for ABS boundaries is dependent on the accuracy of the features they have been aligned to. ABS boundaries are aligned to a number of layers supplied by PSMA with an accuracy of +/-50 mm. PSMA layers and their positional accuracy are as follows:

- Transport and Topography

+/- 2 meters in urban areas and +/- 10 meters in rural and remote areas

- CadLite

+/- 2 meters in urban areas and +/- 10 meters in rural and remote areas

- Administrative Boundaries

Derived from the cadastre data from each Australian State and Territory jurisdiction.

- Greenspace and Hydrology

90% of well-defined features are within 1mm (at plot scale) of their true position, eg 1:500 equates to +/- 0.5metre and 1:25,000 equates to +/- 25 metres. Relative spatial accuracy of these themes reflects that of the jurisdictional source data. The accuracy is +/- 2 metres in urban areas and +/- 10 metres in rural and remote areas. No "shift" of data as a means of "cartographic enhancement" to facilitate presentation has been employed for any real world

feature.

Attribute Accuracy:

All codes and labels for all levels within the ASGS Main Structure and GCCSAs are fully validated.

Logical Consistency:

Regions are closed polygons. Attribute records without spatial objects have been included in the data for administrative purposes.

Completeness:

All levels of the Main Structure and GCCSAs within the 2016 ASGS are represented.

CONTACT INFORMATION

Contact Organisation: Australian Bureau of Statistics

Contact: For further information email <client.services@abs.gov.au> or contact the National Information and Referral Service (NIRS) on 1300 135 070.

Information About CSV Files

INFORMATION ABOUT CSV FILES

The product **Australian Statistical Geography Standard (ASGS) Volume 1 - Main Structure and Greater Capital City Statistical Areas** (cat no. 1270.0.55.001) contains comma-separated value (.csv) files. These files list the codes, labels and hierarchies for all the regions within the Main Structure and Greater Capital City Statistical Areas.

There are fifteen .csv files listing the geographical hierarchies for each of the following regions:

- Mesh Blocks (MB)
- Statistical Area Level 1 (SA1)
- Statistical Area Level 2 (SA2)
- Statistical Area Level 3 (SA3)
- Statistical Area Level 4 (SA4)
- Greater Capital City Statistical Areas (GCCSA)
- State and Territory (STE).

The hierarchy is listed from the lowest level of the ASGS up.

The Mesh Block .csv files are broken up by State/Territory whereas all other files are for the whole of Australia.

FILE CONTENTS:

For example MB_2016_NSW.csv contains all Mesh Blocks within NSW and includes the following fields:

- MB_CODE_2016
- MB_CATEGORY_2016
- SA1_MAINCODE_2016
- SA1_7DIGITCODE_2016
- SA2_MAINCODE_2016
- SA2_5DIGITCODE_2016
- SA2_NAME_2016
- SA3_CODE_2016
- SA3_NAME_2016
- SA4_CODE_2016
- SA4_NAME_2016
- GCCSA_CODE_2016
- GCCSA_NAME_2016
- STATE_CODE_2016
- STATE_NAME_2016
- AREA_ALBERS_SQKM

This lists the Mesh Blocks that make up the SA1s, SA2s, SA3s, SA4s, GCCSAs and State/Territory. It also gives the area in square kilometres of the Mesh Block, based on Albers Conic Equal Area projection.

Information about 2011 to 2016 ASGS Correspondences

INFORMATION ABOUT 2011 to 2016 ASGS CORRESPONDENCES

The ABS has developed a suite of geographical correspondences, primarily to assist users make comparisons and maintain time series between different editions of the Australian Statistical Geography Standard (ASGS). Correspondences are a mathematical method of reassigning data from one geographic region to another geographic region. The 2011 to 2016 ASGS correspondences utilise a 2011 Mesh Block (MB) population weighted grid.

In many cases a correspondence is the only option available when attempting to convert data from one geographic region to another and may be an appropriate approach. However, caution should always be used when applying correspondences as there may be instances where this approach would not appropriately reflect the actual characteristics of a region. Issues surrounding the use of correspondences are discussed in the ABS publication: Information Paper: Converting Data to the Australian Statistical Geography Standard, 2012 (cat. no. 1216.0.55.004).

This document details how the population weighted grid method produces correspondences, and provides a description of how the quality indicator is calculated. To assist users with making a determination of how well a correspondence may or may not convert data, the ABS has developed a quality indicator which is supplied with each correspondence.

Population Weighted Grid Correspondences

The population weighted grid method that the ABS has adopted generates a series of grid points that represent the underlying geographical distribution of a weighting unit, most often

the Mesh Block population. Each grid point is then assigned a value based on this population weight. These are subsequently used as a basis for determining how much of the weighting unit is donated to a 'TO unit' based on how the weighting unit is intersected. This is demonstrated in the below example which develops a 2011 MB to 2016 Statistical Area Level 1 (SA1) correspondence.

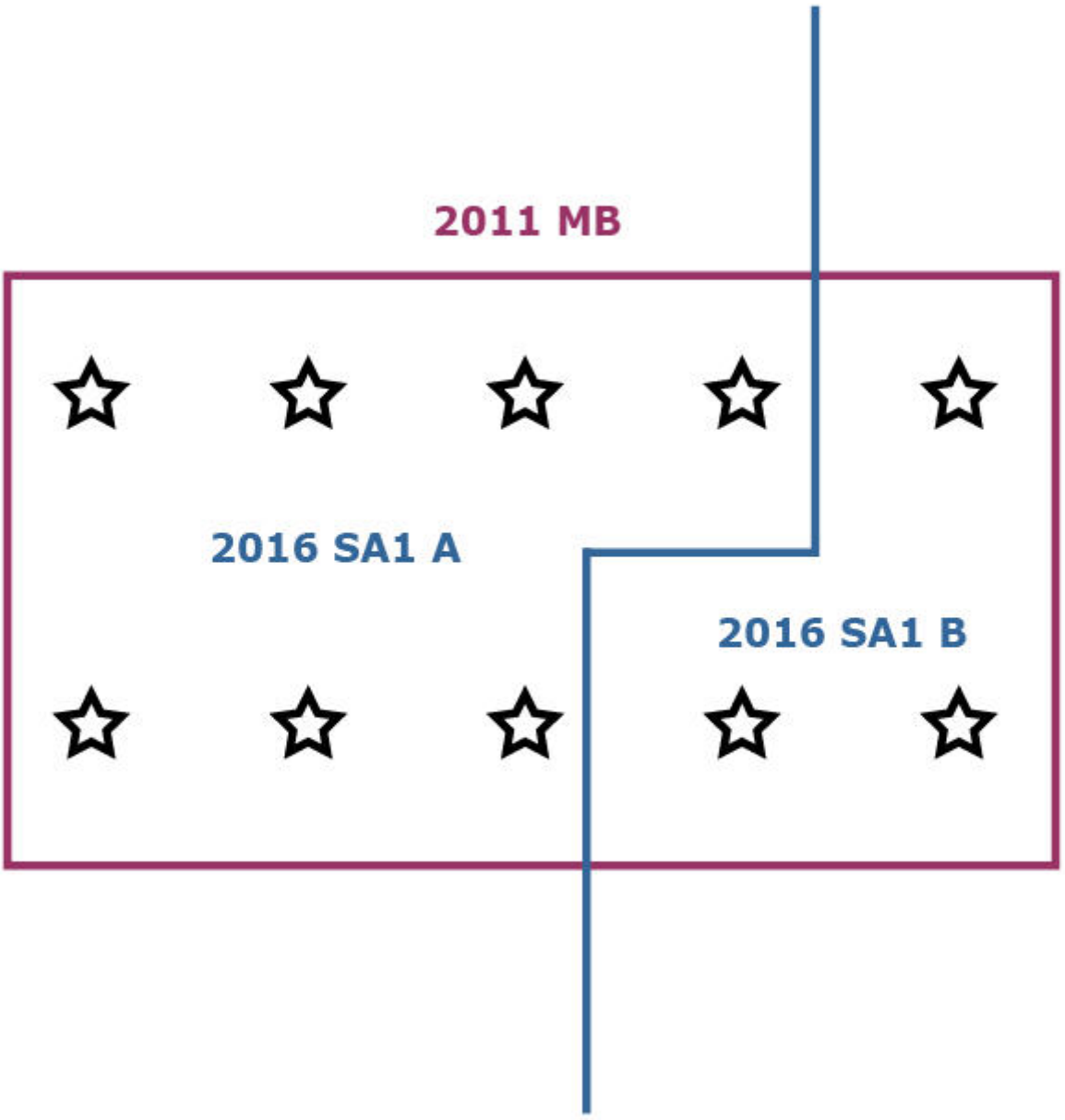


Diagram 1: Example of developing a correspondence between a 2011 MB and two 2016 SA1s which intersect a MB.

In the example the red boundary is a 2011 Mesh Block, which is the weighting unit in this correspondence. It is intersected by two 2016 SA1s, which are the TO units, or the geographical boundaries that are being corresponded to. The Mesh Block weighting unit above contains 40 persons. This population is then evenly distributed across the 10 grid points, meaning each grid point represents 4 persons.

The next step in the correspondence generation process is to determine the proportion that the MB, as the weighting unit, is donating to the respective SA1 TO units. As can be seen in the diagram above there are 7 grid points in SA1 A, and three in SA1 B. Given that each grid point represents 4 persons, 28 persons are located in SA1 A and 12 in SA1 B. In proportional terms the weighting unit is then donating to the respective SA1s as follows:

- SA1 A: 28 / 40 which gives a ratio of 0.7 or 70 per cent.
- SA1 B: 12 / 40 which gives a ratio of 0.3 or 30 per cent.

So the result is that the MB in question is donating 70 per cent of its data to SA1 A, and 30 per cent of its data to SA1 B.

The benefit of using this method is that any two sets of geographic regions can have a correspondence generated for them, and that any attribute value can be distributed across the grid to be used as the weighting unit.

Quality Indicator

The ABS conducted an investigation to determine how accurately correspondences converted data. This found that while some correspondences converted data well, there were many cases where the converted data did not reflect the actual characteristics of some geographical regions. Based on these findings a quality indicator was developed to inform data users of instances where the converted data values are likely to be accurate, and where caution will be needed to be used when assessing the results.

The method that has been developed to generate the quality indicator involves a number of steps. Firstly it looks at the value that a FROM region donates to a TO region as a ratio of the whole FROM region. The next step is to examine the value that the FROM region donates to the TO region as a ratio of the whole TO region. These two values are then multiplied together to provide the component for that FROM region. This process is then repeated for each donating FROM region, with the component values then added to provide the overall score for the TO region. Based on the score returned, a textual description is then applied as to how well the ABS expects data to be converted to the TO region. This is highlighted in the example below.

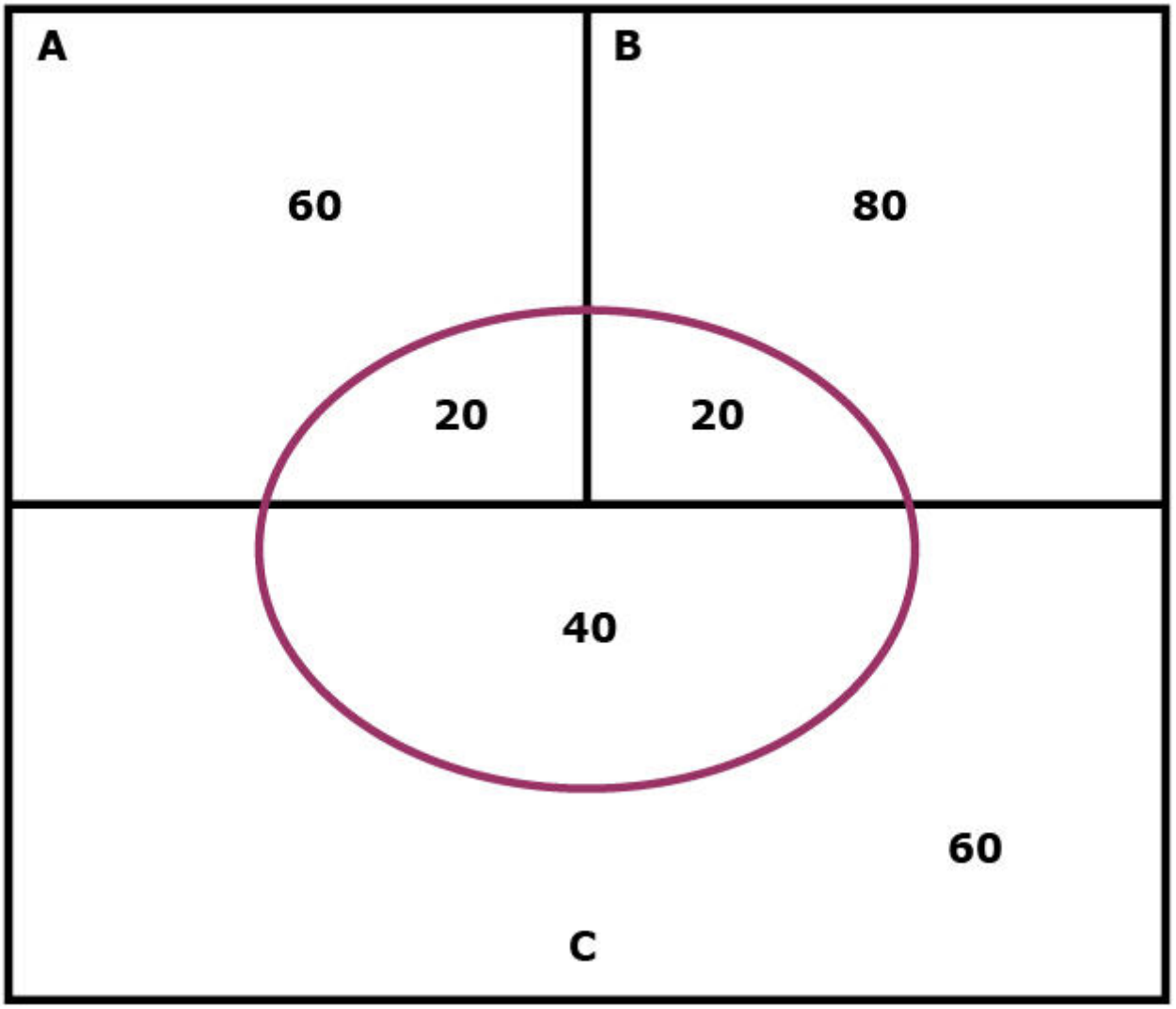


Diagram 2: Illustration of 3 FROM regions to 1 TO region.

In this example there are three FROM regions A, B and C represented by the black boundaries. The TO region is represented by the red ellipse.

REGION A CALCULATION

STEP 1: Region A donates 20 persons to the TO region, while there are a further 60 people in FROM Region A that are not donated to the TO region. Therefore the ratio of FROM region A is 20 / 80, or 0.25.
STEP 2: The next step is to look at the value that is being donated from Region A compared to the total value of the TO region (ie 80 persons comprising 20 from Region A + 20 from Region B + 40 from Region C). Region A donates 20 persons, and the total population is 80. So in this case the ratio is 20 / 80, or 0.25.
STEP 3: Region A's component score is then calculated by multiplying the TO and FROM score (0.25 x 0.25) giving Region A a component score of 0.0625.

The same process is then applied to FROM Regions B and C.

REGION B CALCULATION

Region B donates 20 persons with a further 80 persons in the remainder of the FROM region. Therefore its ratio is 20 / 100 or 0.2. Region B donates 20 persons and the total population of the TO region is 80 so the ratio is 20 / 80 or 0.25. Region B's component score is therefore 0.2 x 0.25 or 0.05.

REGION C CALCULATION

Again Region C donates 40 persons with another 60 in the remainder of FROM Region C. The ratio is 40 / 100 or 0.4. The 40 persons donated are then compared against the total population of the TO region of 80, so the ratio is 40 / 80 or 0.5. This results in the component score for From Region C being 0.4 x 0.5 or 0.2.

SUMMING COMPONENT SCORES

The final step is to add the three component scores. In this case:

- Region A = 0.0625
- Region B = 0.05
- Region C = 0.2

QUALITY INDICATOR

The final result is that the TO region in this example would have a quality indicator score of 0.3125, a score that the ABS would regard as being poor, meaning that caution would have to be used when using the results of data converted to the TO region.

The textual descriptions and the associated definitions that will be supplied for each TO region in a correspondence are as follows.

> **Good** (Greater than 0.9)– The ABS expects that for this TO region the correspondence will convert data to a high degree of accuracy and users can expect the converted data will reflect the actual characteristics of the geographic regions involved.
>
> **Acceptable** (0.75 to 0.9)– The ABS expects that for this TO region the correspondence will convert data to a reasonable degree of accuracy, though caution needs to be applied as the quality of the converted data will vary and may differ from the actual characteristics of the geographic regions involved.
>
> **Poor** (Less than 0.75) – The ABS expects that for this TO region there is a high likelihood the correspondence will not convert data accurately and that the converted data should be used with caution as it may not reflect the actual characteristics of many of the geographic regions involved.

Overall Quality Indicator

An overall quality indicator is given to each correspondence. The aim of this is to provide users with a reasonable idea of how well the correspondence will convert data across the whole of the correspondence.

The overall quality indicator is derived from multiplying the population of each TO region with that TO regions quality indicator score, based on the methodology described above. The values produced by this multiplication for each TO region are then added together. This aggregated value is then divided by the total population of the TO regions. This will return a result similar to the individual quality indicator scores. Similar textual descriptions are then applied.

Good – The ABS expects that the correspondence will convert data overall to a high degree of accuracy and users can expect the converted data will reflect the actual characteristics of the geographic regions involved.

Acceptable – The ABS expects that the correspondence will convert data overall to a reasonable degree of accuracy, though caution needs to be applied as the quality of the converted data will vary and may differ in parts from the actual characteristics of the geographic regions involved.

Poor – The ABS expects there is a high likelihood the correspondence will not convert data overall accurately and that the converted data should be used with caution as it may not reflect the actual characteristics of many of the geographic regions involved.

Metadata for Correspondences

METADATA FOR CORRESPONDENCE FILES

Correspondences allow users to reallocate data between areas by providing a population weighted proportionate distribution and a goodness of fit indicator. These correspondences may then be extended to develop a one to one concordance based on the most significant contributors.

This publication contains a suite of correspondences for the Australian Statistical Geography Standard (ASGS) Main Structure between the 2011 and 2016 ASGS.

FILE FORMAT

There are a number of correspondences available within this product. The correspondences are supplied in Microsoft Excel format (.xls). Within each Microsoft Excel file there may be several Worksheets along with a Contents page and Explanatory Notes.

The Worksheets are as follows:

QI_MEASURE
This Worksheet contains the overall quality measure in textual description, This Worksheet will always be supplied with correspondences.

QI_INDICATOR
This Worksheet contains the individual quality indicator in textual descriptions for every TO region. This Worksheet will always be supplied with correspondences.

CORRESPONDENCE
This Worksheet contains the main correspondence and the majority of the records. This Worksheet will always be supplied with correspondences.

NULL_TO_OR_FROM_FIELD
This Worksheet contains records where a FROM region does not have a corresponding TO region, or vice versa. An example of when this may occur is when one geography dataset contain islands which are not included in the other dataset. This Worksheet will only be supplied if records fall in to this category.

BELOW_MINIMUM_OUTPUT_SIZE
This Worksheet contains records that have a statistical weight below a pre-set minimum (typically below 0.01). These are records where the proportion of the FROM region that is being donated is very small and is deemed as being statistically insignificant. This Worksheet will only be supplied if there are records that fall in to this category.

MISSING_TO_UNITS
Contains records where the TO unit is not represented elsewhere in the correspondence. This is due to the TO unit being very small relative to the FROM unit and, as a result, a grid point is not associated with the TO unit. In cases where this occurs, documentation will be included with the affected correspondence as well as a list of the TO units that are not represented in the other Worksheets.

FILE NAMING CONVENTION FOR GRID BASED CORRESPONDENCES

Correspondence File Name

Grid based correspondences supplied by the ABS have a standard naming convention applied. The examples below relates to a correspondence where 2011 Statistical Areas Level 2 (SA2) are being corresponded to 2016 SA2s.

File name:
Statistical Area Level 2 2011 TO Statistical Area Level 2 2016

and

CG_SA2_2011_SA2_2016.xls

Table 1: Character and meaning of the file name.

Character	Meaning
C	Correspondence
G	Grid based correspondence
SA2	Represents the name of the FROM region, in this case Statistical Area Level 2
2011	The year that this version of the FROM region was released
SA2	Represents the name of the TO region, in this case Statistical Area Level 2
2016	The year that this version of the TO region was released
.xls	The format that the file is being supplied, Microsoft Excel format

CORRESPONDENCE WORKBOOK AND FIELD DEFINITIONS

Below is an example of the content for each of the Worksheets in the correspondence Microsoft Excel Workbook files provided in this publication. Definition of the fields in the Worksheets is also provided with the examples.

The QI_MEASURE Worksheet

Table 2: An example of the overall quality indicator of a grid based correspondence file.

QI_MEASURE

Good

In the above example the field name and descriptions are:

QI_MEASURE
The overall quality indicator for the entire correspondence.

The same textual descriptions used for the overall quality measure are also applied to the individual quality indicators. The textual descriptions are Good, Acceptable and Poor.

The QI_INDICATOR Worksheet

Table 3: An example of the quality indicator of a grid based correspondence file for each TO region.

SA2_MAINCODE_2016	SA2_NAME_2016	QI_INDICATOR
801051123	Black Mountain	Poor
801051126	Parkes (ACT) - North	Poor
801101137	Molonglo	Poor
505031255	Alkimos - Eglinton	Poor
801071132	Tuggeranong - West	Poor
801101139	Wright	Poor
127011592	Badgerys Creek	Poor
209041437	Wollert	Poor

In the above example the field names and descriptions are as follows:

SA2_CODE_2016
This is a unique code associated with each TO region, to which a textual description of quality is supplied. In this case it is the unique SA2 code.

SA2_NAME_2016
This is the name of the SA2 which in this example is the TO region to which a textual description of quality is supplied.

QI_INDICATOR
This is the textual description of quality that is supplied for each TO region of the correspondence.

The same textual descriptions used for the individual quality indicators are also applied to the overall quality measure. The textual descriptions are Good, Acceptable and Poor.

The CORRESPONDENCE Worksheet

Table 4: An example of a grid based correspondence file.

SA2_MAINCODE_2011	SA2_NAME_2011	SA2_MAINCODE_2016	SA2_NAME_2016	RATIO	PERCENT
101011001	Goulburn	101051539	Goulburn	1.0	100
101011002	Goulburn Region	101051540	Goulburn Region	1.0	100
101011003	Yass	101061541	Yass	1.0	100

101011004	Yass Region	101061542	Yass Region	1.0	100
101011005	Young	101061543	Young	1.0	100
101011006	Young Region	101061544	Young Region	1.0	100
101021007	Braidwood	101021007	Braidwood	1.0	100
101021008	Karabar	101021008	Karabar	1.0	100

In the above example the field names and descriptions are as follows:

SA2_MAINCODE_2011
This is the unique numerical code representing the FROM region and in this case, the unique 2011 SA2 code.

SA2_NAME_2011
This is a textual label associated with the unique code of the FROM region, in this case it is the textual label for each 2011 SA2.

SA2_MAINCODE_2016
This is the unique numerical code representing the TO region, in this case it is the unique 2016 SA2 code.

SA2_NAME_2016
This is a textual label associated with the unique code of the TO region, in this case it is the textual label for each 2016 SA2.

RATIO
This field describes the Ratio of the FROM region that is being donated to the TO region. The Ratio is a figure between 0 and 1.

PERCENTAGE
This field describes the Percentage of the FROM region that is being donated to the TO region. The Percentage is the Ratio multiplied by 100.

The NULL_TO_OR_FROM_FIELD Worksheet

Table 5: An example of a table identifying NULL areas in either the TO or FROM region in a grid based correspondence.

SA2_MAINCODE_2011	SA2_NAME_2011	SA2_MAINCODE_2016	SA2_NAME_2016	RATIO	PERCENT
		102011030	Calga - Kulnura	1.0	100

In the above example the field names and descriptions are as follows:

SA2_MAINCODE_2011
This is the unique numerical code representing the FROM region, in this case it is the unique 2011 SA2 code. In the example above there is no 2011 SA2 listed which indicates that the 2016 SA2 does not correspond with any 2011 SA2.

SA2_NAME_2011
This is a textual label associated with the unique code of the FROM region, in this case it is the textual label for each 2011 SA2.

SA2_MAINCODE_2016

This is the unique numerical code representing the TO region, in this case it is the unique 2016 SA2 code.

SA2_NAME_2016
This is a textual label associated with the unique code of the TO region, in this case it is the textual label for each 2016 SA2.

RATIO
This field describes the Ratio of the FROM region that is being donated to the TO region. The Ratio is a figure between 0 and 1.

PERCENTAGE
This field describes the Percentage of the FROM region that is being donated to the TO region. The Percentage is the Ratio multiplied by 100.

The BELOW_MINIMUM_OUTPUT_SIZE Worksheet

Table 6: An example of a table identifying ratios and percents of a TO region that is below minimum output size.

SA2_MAINCODE_2011	SA2_NAME_2011	SA2_MAINCODE_2016	SA2_NAME_2016	RATIO	PERCENT
107041144	Balgownie - Fairy Meadow	107041145	Corrimal - Tarrawanna - Bellambi	6.36e-05	0.0063571
109011172	Albury - East	109011175	Albury Region	5.91e-05	0.0059077
111021219	Toronto - Awaba	111021220	Wangi Wangi - Rathmines	7.54e-05	0.0075379

In the above example the field names and descriptions are as follows:

SA2_MAINCODE_2011
This is the unique numerical code representing the FROM region, in this case it is the unique 2011 SA2 code.

SA2_NAME_2011
This is a textual label associated with the unique code of the FROM region, in this case it is the textual label for each 2011 SA2.

SA2_MAINCODE_2016
This is the unique numerical code representing the TO region, in this case it is the unique 2016 SA2 code.

SA2_NAME_2016
This is a textual label associated with the unique code of the TO region, in this case it is the textual label for each 2016 SA2.

RATIO
This field describes the Ratio of the FROM region that is being donated to the TO region. The Ratio is a figure between 0 and 1. In many cases, as can be seen in the example above, the amount that a FROM region is donating to a TO region is very small and is expressed as an exponential value.

PERCENTAGE

This field describes the Percentage of the FROM region that is being donated to the TO region. The Percentage is the Ratio multiplied by 100. In many cases, as can be seen in the example above, the amount that a FROM region is donating to a TO region is very small.

The MISSING_TO_UNITS Worksheet

There may be cases where a TO unit is not represented in a correspondence file. This is due to the TO unit being very small relative to the FROM unit, and as a result a grid point is not associated with the TO unit. In cases where this occurs, an additional worksheet will be included with the affected correspondence file. It will consist of a list of the TO units that are not represented in any of the other Worksheets listed above, and will be in a similar format.

FURTHER INFORMATION

More information on the ASGS and ABS Statistical Geography can be found by visiting the ABS website: https://www.abs.gov.au/geography

Any questions or comments can be emailed to <client.services@abs.gov.au> or contact the National Information and Referral Service (NIRS) on 1300 135 070.

Abbreviations

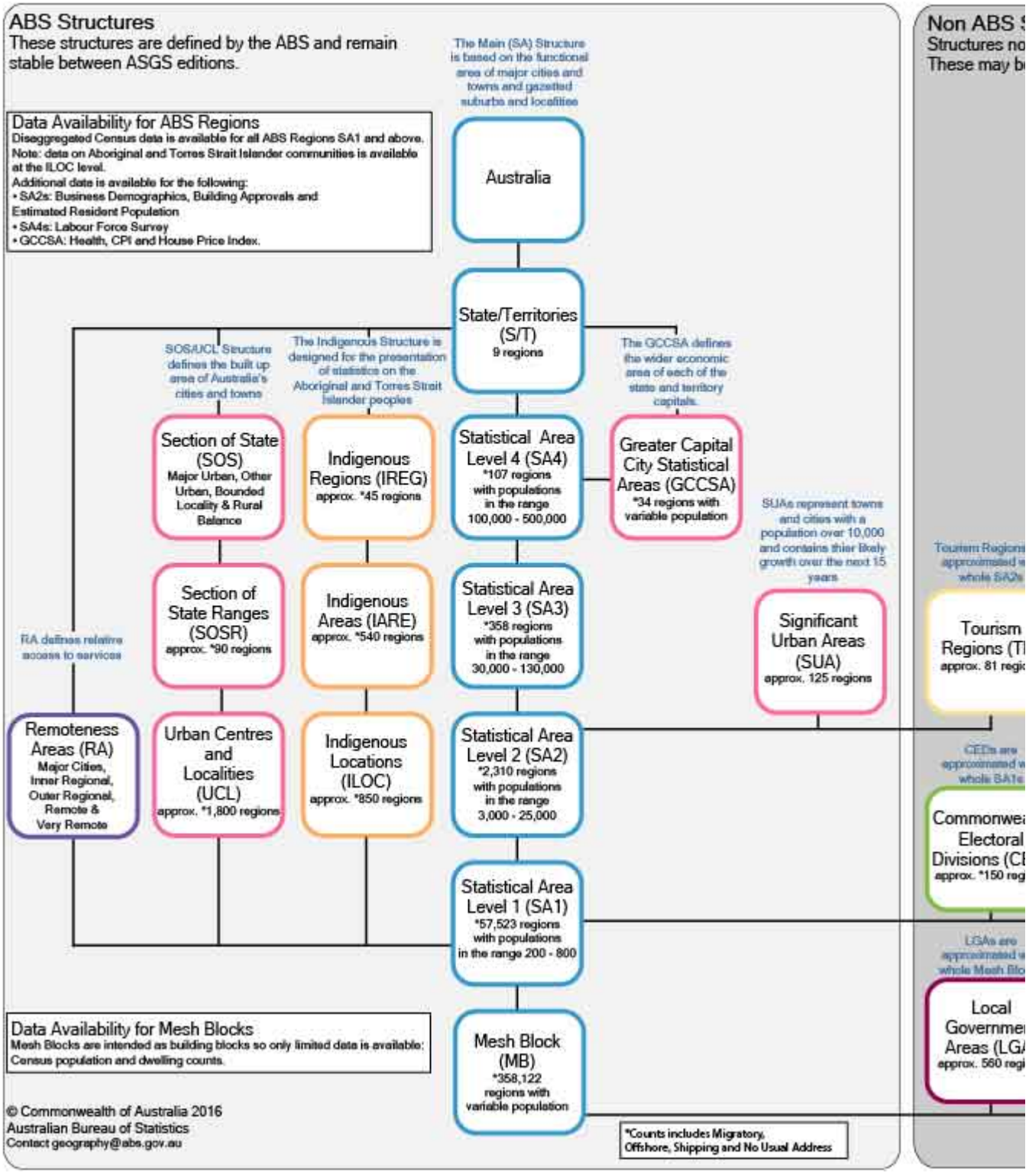
ABBREVIATIONS

ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
ADD	Australian Drainage Division
ASGS	Australian Statistical Geography Standard
AUS	Australia
CED	Commonwealth Electoral Division
GCCSA	Greater Capital City Statistical Area
GDA94	Geocentric Datum of Australia 1994
LGA	Local Government Area
MB	Mesh Block
NSW	New South Wales
NRMR	Natural Resource Management Region
NT	Northern Territory
OT	Other Territories
POA	Postal Area
QLD	Queensland
RA	Remoteness Areas
SA	South Australia
SA1	Statistical Area Level 1
SA2	Statistical Area Level 2
SA3	Statistical Area Level 3
SA4	Statistical Area Level 4
SED	State Electoral Division
SOS	Section of State
SOSR	Section of State Range
SSC	State Suburb
S/T	State or Territory
SUA	Significant Urban Area

Tas.	Tasmania
TR	Tourism Region
UCL	Urban Centre and Localities
Vic.	Victoria
WA	Western Australia

The Australian Statistical Geography Standard (ASGS) 2016 Structure and Summary (Appendix)

APPENDIX 1: THE AUSTRALIAN STATISTICAL GEOGRAPHY STANDARD (ASGS) 2016 STRUCTURE AND SUMMARY



ASGS Coding and Labelling Changes (Appendix)

APPENDIX 2: ASGS CODING AND LABELLING CHANGES

ASGS 2016 CODING AND LABELLING CHANGES

Note: This document tracks splits, label changes and code changes, it does not attempt to track where boundaries have changed slightly between existing areas (i.e. boundary nudges)

SA4 CHANGES

SA4 Splits

Note: This 2011 code has been retired from use

From (2011):	To (2016):
508 Western Australia – Outback	510 Western Australia – Outback (North)
	511 Western Australia – Outback (South)

SA4 Label changes

From (2011):	To (2016):
308 Fitzroy	308 Central Queensland
312 Mackay	312 Mackay – Isaac - Whitsunday

SA3 CHANGES

SA3 Splits

Note: These 2011 codes have been retired from use

From (2011):	To (2016):
10101 Goulburn – Yass	10105 Goulburn - Mulwaree
	10106 Young – Yass
21702 Warrnambool – Otway Ranges	21703 Colac – Corangamite
	21704 Warrnambool
30802 Gladstone – Biloela	30804 Biloela
	30805 Gladstone
31604 Nambour – Pomona	31607 Nambour
	31608 Noosa Hinterland
50806 Pilbara	51002 East Pilbara
	51003 West Pilbara
80102 Cotter- Namadgi	80110 Molonglo
	80111 Urriarra – Namadgi

SA3 Code Changes (resulting from SA4 change)

Note: These 2011 codes have been retired from use

From (2011):	To (2016):
50801 Esperance	51101 Esperance
50802 Gascoyne	51102 Gascoyne
50803 Goldfields	51103 Goldfields
50804 Kimberley	51001 Kimberley
50805 Mid West	51104 Mid West

SA3 Label Changes

From (2011):	To (2016):
80103 ACT – East	80103 Canberra East
31401 Hills District	31401 The Hills District

SA2 CHANGES

SA2 Splits

Note: These 2011 codes have been retired from use

From (2011):	To (2016):
107011130 Berkeley - Warrawong - Windang	107011545 Berkeley - Lake Heights - Cringila
	107011546 Port Kembla - Warrawong
	107011547 Windang - Primbee

107041149 Wollongong	107041548 Wollongong - East
	107041549 Wollongong - West
112031255 Tweed Heads - South	112031550 Banora Point
	112031551 Terranora - North Tumblegum
	112031552 Tweed Heads South
115011292 Castle Hill	115011553 Castle Hill - Central
	115011555 Castle Hill - North
	115011556 Castle Hill - South
115011293 Cherrybrook	115011554 Castle Hill - East
	115011558 Cherrybrook
115011295 Kellyville	115011557 Castle Hill - West
	115011559 Kellyville
116011305 Blacktown (South)	116011560 Blacktown (South)
	116011561 Blacktown (West)
116021311 Quakers Hill - Acacia Gardens	116021562 Acacia Gardens
	116021563 Quakers Hill
118021349 Kensington - Kingsford	118021564 Kensington (NSW)
	118021565 Kingsford
118021351 Maroubra	118021566 Maroubra - North
	118021567 Maroubra - South
	118021568 Maroubra - West
118021352 Randwick	118021569 Randwick - North
	118021570 Randwick - South
119011353 Bankstown	119011571 Bankstown - North
	119011572 Bankstown - South
119021365 Lakemba - Wiley Park	119021573 Lakemba
	119021574 Wiley Park
120031397 Strathfield	120031575 Strathfield
	120031576 Strathfield South
121021405 Hornsby - Waitara	121021577 Hornsby - East
	121021578 Hornsby - West
	121021579 Waitara - Wahroonga (West)
124051471 St Marys - Colyton	124051580 Colyton - Oxley Park
	124051581 St Marys - North St Marys
125011472 Auburn	125011582 Auburn - Central
	125011583 Auburn - North
	125011584 Auburn - South
125011474 Lidcombe - Regents Park	125011585 Berala
	125011586 Lidcombe
	125011587 Regents Park
125041488 Girraween - Westmead	125041588 Pendle Hill - Girraween
	125041589 Wentworthville - Westmead
126021502 Ryde - Putney	126021590 Putney
	126021591 Ryde
127011507 Green Valley - Cecil Hills	127011593 Cecil Hills
	127011594 Green Valley
	127011595 Hinchinbrook
127011508 Hoxton Park - Horningsea Park	127011596 Hoxton Park - Carnes Hill - Horningsea Park
	127011597 West Hoxton - Middleton Grange
127031525 Liverpool - Warwick Farm	127031598 Liverpool
	127031601 Warwick Farm
127031526 Prestons - Lurnea	127031599 Lurnea - Cartwright
	127031600 Prestons - Edmondson Park
128011527 Caringbah - Lilli Pilli	128011602 Caringbah
	128011603 Caringbah South
	128011605 Lilli Pilli - Port Hacking - Dolans Bay
128011528 Cronulla - Kurnell - Bundeena	128011604 Cronulla - Kurnell - Bundeena
	128011606 Woolooware - Burraneer
128021532 Engadine - Loftus	128021607 Engadine
	128021608 Loftus - Yarrawarrah
	128021609 Woronora Heights
207021158 Doncaster East	207021424 Doncaster East (North)
	207021425 Doncaster East (South)
208021175 Bentleigh East	208021426 Bentleigh East (North)
	208021427 Bentleigh East (South)
209021206 Preston	209021428 Preston - East

	209021429 Preston - West
209041218 Epping	209041431 Epping - East
	209041432 Epping - South
	209041433 Epping - West
	209041437 Wollert
209041222 South Morang	209041430 Doreen
	209041434 Mernda
	209041435 South Morang (North)
	209041436 South Morang (South)
210031238 Glenroy - Hadfield	210031438 Glenroy
	210031439 Gowanbrae
	210031440 Hadfield
210051244 Craigieburn - Mickleham	210051441 Craigieburn - Central
	210051442 Craigieburn - North
	210051443 Craigieburn - South
	210051444 Craigieburn - West
	210051445 Mickleham - Yuroke
211011252 Boronia - The Basin	211011446 Boronia
	211011449 The Basin
211011253 Ferntree Gully	211011447 Ferntree Gully (North)
	211011448 Ferntree Gully (South) - Upper Ferntree Gully
211031264 Croydon	211031450 Croydon - East
	211031451 Croydon - West
	211031452 Croydon South
212021296 Endeavour Hills	212021453 Endeavour Hills - North
	212021454 Endeavour Hills - South
212021298 Narre Warren	212021455 Narre Warren - North East
	212021456 Narre Warren - South West
212031307 Narre Warren South	212031457 Narre Warren South (East)
	212031458 Narre Warren South (West)
212041315 Noble Park	212041459 Noble Park - East
	212041460 Noble Park - West
213041354 Caroline Springs	213041461 Burnside
	213041462 Burnside Heights
	213041463 Caroline Springs
213051364 Point Cook	213051464 Point Cook - East
	213051465 Point Cook - North
	213051466 Point Cook - South
213051367 Werribee	213051467 Werribee - East
	213051468 Werribee - West
215021397 Mildura	215021469 Mildura - North
	215021470 Mildura - South
309091266 Southport	309091540 Southport - North
	309091541 Southport - South
316051436 Peregian	316051543 Peregian Beach - Marcus Beach
	316051544 Peregian Springs
402041045 Pooraka	402041171 Mawson Lakes - Globe Derby Park
	402041172 Pooraka - Cavan
407021153 Mount Gambier	407021173 Mount Gambier - East
	407021174 Mount Gambier - West
501021006 Bunbury	501021253 South Bunbury - Bunbury
	501021254 Withers - Usher
501021013 Gelorup - Dalyellup - Stratham	501021251 Dalyellup
	501021252 Gelorup - Stratham
505031109 Yanchep	505031255 Alkimos - Eglinton
	505031256 Carabooda - Pinjar
	505031257 Two Rocks
	505031258 Yanchep
602031063 Scottsdale - Bridport	602031099 Flinders and Cape Barren Islands
	602031100 Scottsdale - Bridport
801021027 ACT - South West	801071132 Tuggeranong - West
	801081133 Scrivener
	801101135 Coombs
	801101136 Denman Prospect
	801101137 Molonglo

	801101139 Wright
	801111140 ACT - South West
801021028 Molonglo	801011111 Molonglo Corridor
	801011112 West Belconnen
	801051123 Black Mountain
	801101134 Arboretum
	801101138 Molonglo - North
801031030 ACT - East	801031113 Canberra East
	801061130 Fyshwick
801031033 Majura	801031114 Canberra Airport
	801031115 Majura
801041041 Gungahlin - East	801041116 Gungahlin - East
	801041119 Kenny
	801041122 Throsby
801041042 Gungahlin - West	801041117 Gungahlin - West
	801041118 Jacka
	801041120 Moncrieff
	801041121 Taylor
801051052 Campbell	801051124 Campbell
	801051125 Duntroon
	801051128 Russell
801051059 Reid	801051126 Parkes (ACT) – North
	801051127 Reid
801061065 Kingston - Barton	801061129 Barton
	801061131 Kingston (ACT)

SA2 Amalgamations
Note: These 2011 codes have been retired from use

From (2011):	**To (2016):**
507011149 Beeliar	
507011162 Wattleup	507011259 Beeliar - Wattleup
507011156 Jandakot	
507011157 Jandakot Airport	507011260 Jandakot
507031168 Anketell – Wandi	
507031171 Casuarina - Wellard (East)	507031261 Casuarina - Wandi

SA2 Code Changes (resulting from SA4/SA3 changes)
Note: These 2011 codes have been retired from use

From (2011):	**To (2016):**
101011001 Goulburn	101051539 Goulburn
101011002 Goulburn Region	101051540 Goulburn Region
101011003 Yass	101061541 Yass
101011004 Yass Region	101061542 Yass Region
101011005 Young	101061543 Young
101011006 Young Region	101061544 Young Region
217021424 Camperdown	217031471 Camperdown
217021425 Colac	217031472 Colac
217021426 Colac Region	217031473 Colac Region
217021427 Corangamite - North	217031474 Corangamite - North
217021428 Corangamite - South	217031475 Corangamite - South
217021429 Moyne - East	217041477 Moyne - East
217021430 Moyne - West	217041478 Moyne - West
217021431 Otway	217031476 Otway
217021432 Warrnambool - North	217041479 Warrnambool - North
217021433 Warrnambool - South	217041480 Warrnambool - South
308021193 Agnes Water - Miriam Vale	308051530 Agnes Water - Miriam Vale
308021194 Banana	308041528 Banana
308021195 Biloela	308041529 Biloela
308021196 Boyne Island - Tannum Sands	308051531 Boyne Island - Tannum Sands
308021197 Callemondah	308051532 Callemondah
308021198 Clinton - New Auckland	308051533 Clinton - New Auckland

308021199 Gladstone	308051534 Gladstone
308021200 Gladstone Hinterland	308051535 Gladstone Hinterland
308021201 Kin Kora - Sun Valley	308051536 Kin Kora - Sun Valley
308021202 South Trees	308051537 South Trees
308021203 Telina - Toolooa	308051538 Telina - Toolooa
308021204 West Gladstone	308051539 West Gladstone
316041429 Bli Bli	316071545 Bli Bli
316041430 Diddillibah - Rosemount	316071546 Diddillibah - Rosemount
316041431 Eumundi - Yandina	316071547 Eumundi - Yandina
316041432 Nambour	316071548 Nambour
316041433 Noosa Hinterland	316081549 Noosa Hinterland
508011194 Esperance	511011274 Esperance
508011195 Esperance Region	511011275 Esperance Region
508021196 Carnarvon	511021276 Carnarvon
508021197 Exmouth	511021277 Exmouth
508031198 Boulder	511031278 Boulder
508031199 Kalgoorlie	511031279 Kalgoorlie
508031200 Kalgoorlie - North	511031280 Kalgoorlie - North
508031201 Kalgoorlie Airport	511031281 Kalgoorlie Airport
508031202 Kambalda - Coolgardie - Norseman	511031282 Kambalda - Coolgardie - Norseman
508031203 Leinster - Leonora	511031283 Leinster - Leonora
508031204 Trafalgar (WA)	511031284 Trafalgar (WA)
508041205 Broome	510011262 Broome
508041206 Derby - West Kimberley	510011263 Derby - West Kimberley
508041207 Halls Creek	510011264 Halls Creek
508041208 Kununurra	510011265 Kununurra
508041209 Roebuck	510011266 Roebuck
508051210 Geraldton	511041285 Geraldton
508051211 Geraldton - East	511041286 Geraldton - East
508051212 Geraldton - North	511041287 Geraldton - North
508051213 Geraldton - South	511041288 Geraldton - South
508051214 Irwin	511041289 Irwin
508051215 Meekatharra	511041290 Meekatharra
508051216 Morawa	511041291 Morawa
508051217 Northampton - Mullewa - Greenough	511041292 Northampton - Mullewa - Greenough
508061218 Ashburton (WA)	510031271 Ashburton (WA)
508061219 East Pilbara	510021267 East Pilbara
508061220 Karratha	510031272 Karratha
508061221 Newman	510021268 Newman
508061222 Port Hedland	510021269 Port Hedland
508061223 Roebourne	510031273 Roebourne
508061224 South Hedland	510021270 South Hedland
801021029 Namadgi	801111141 Namadgi

SA2 Label changes

From (2011):	**To (2016):**
116031314 Glendenning Dean Park	116031314 Glendenning - Dean Park
121031412 Wahroonga - Warrawee	121031412 Wahroonga (East) - Warrawee
127011505 Badgerys Creek - Greendale	127011505 Austral - Greendale
203031052 Queenscliff	203031052 Point Lonsdale - Queenscliff
206041121 Kensington	206041121 Kensington (Vic.)
311061330 Kingston	311061330 Kingston (Qld)
314011386 Hills District	314011386 The Hills District
406021140 Flinders Ranges	406021140 Quorn - Lake Gilles
501021015 Koombana	501021015 East Bunbury - Glen Iris
504031061 Hazelmere - South Guildford	504031061 Hazelmere - Guildford
801061068 Parkes (ACT)	801061068 Parkes (ACT) - South